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VIRGINIA MEDICAL

Monthly Publication of The Medical Society of Virginia

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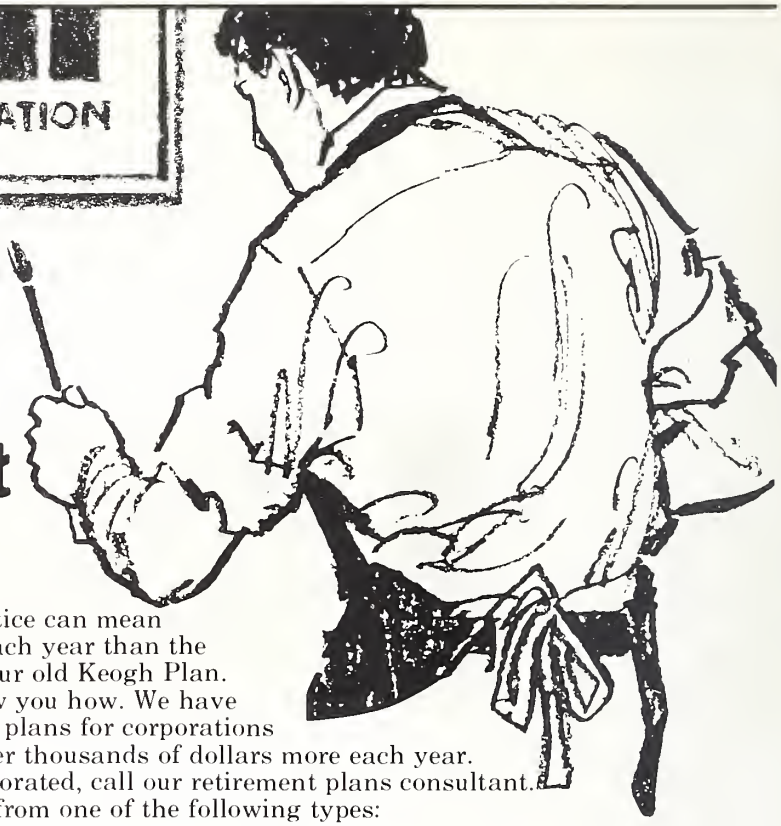
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Distaff Succession Echoes a Tradition

Father-son succession is a certain pillar of Virginia medicine. And in a distinguished extension of that tradition, there have been two father-son successions in the presidency of The Medical Society of Virginia: The presidential footsteps of Dr. Hunter Holmes McGuire, MSV leader in 1881, were followed in 1909 by his son, Dr. Stuart McGuire; and Dr. J. Shelton Horsley, elected President in 1927, was emulated in that post in 1961 by his son, Dr. Guy Winston Horsley.

It is fitting, then, that the Auxiliary to The Medical Society of Virginia should have produced a similar succession in the person of its new president, Mrs. Charles G. Smith of McLean. Mrs. Smith's mother, the late Mrs. Daniel Edgar Lybrook, was also a state medical auxiliary president, leading, in 1950-1951, the Auxiliary to the Indiana State Medical Association.

This is the first time since its founding in 1922 that the Virginia Auxiliary's president has been the daughter of a former state auxiliary president. Has a similar succession occurred in any of the other state medical auxiliaries? At Chicago headquarters of the American Medical Association Auxiliary (also founded in 1922), spokeswomen say "a few" daughters have followed their mothers in state auxiliary leadership—but they include in that nebulous response the mother-in-law/daughter-in-law relationship and, in any case, do not



MRS. CHARLES G. SMITH

specify names and dates. Certain it is that a mother-daughter succession of state medical auxiliary presidents is, at the least, extremely rare.

Mrs. Smith's mother was married to a country doctor who was the son of a country doctor and who practiced where his father had, in the rural community of Young America, Indiana. Dr. and Mrs. Lybrook had eight children, but that didn't keep Mrs. Lybrook, a graduate of the University of Indiana, from energetic involvement in her community. Particularly, she was keen on the subject of farm women bettering themselves; she loved to fill up her car with farmers' wives and take them to the 1-day workshops at Purdue University, 50 miles away. In 1953 she was named Indiana's Mother of the Year.

Her daughter carries on not only the auxiliary tradition but the zeal for community service as well. Anne Smith donates substantive time to coordinating community health education programs for various organizations over the state, including the University of Virginia. Recently she went back to college to earn her master's degree in adult and continuing education, so that she would have a "credit card", as she puts it, for her community work.

She and her husband met at the University of Indiana Medical School, where he was studying to become a doctor and she was a student nurse. After Dr. Smith took his residency at the Veterans Administration Hospital in Washington, they settled in Northern Virginia, where Dr. Smith is an internist and medical director of the Alcoholism Treatment Unit at Arlington Hospital. A brother of Mrs. Smith, Dr. William B. Lybrook, is a general practitioner in Indianapolis.



MRS. DANIEL E. LYBROOK

Other Auxiliary officers elected with Mrs. Smith at the Annual Meeting late last year are Mrs. M. Pinson Neal, Jr., Richmond, president elect; Mrs. John Hannon, Fairfax, Mrs. Gerald Weitzman, Portsmouth, and Mrs. Thomas W. Caldroney, Newport News, vice presidents; Mrs. James R. Brunk, Harrisonburg, treasurer; Mrs. Charles H. Mosely, Petersburg, and Mrs. Herbert E. Lane, Jr., McLean, secretaries. A. G.

Radiation: What's the Risk?

PUBLIC awareness of radiation has been heightened recently by protests of nuclear power, nuclear weapons tests, the Three Mile Island episode, and newspaper articles relating to all these events. What is the magnitude of the risk to the public?

In discussing the relative risk of radiation, we use units of radiation exposure and dose. These include the roentgen, the rad (radiation absorbed dose) and the rem (roentgen equivalent man). The technical difference between these units in diagnostic radiology is minimal, and to keep it simple we use "rem".

Most people don't realize—and others forget—that we humans live in an eternally radioactive environment. This was also true of all of our ancestors, as far back as man goes. Cosmic rays constantly bombard the earth's atmosphere, irradiating us and producing radioactive materials, such as carbon-14, found, with potassium-40, throughout the earth and in human bodies and ordinary building materials. Trace amounts of radioactive materials, including radium and its products, are found naturally in drinking water, coal, brick, stone (particularly granite), etc. The natural radiation in the United States results in an estimated average annual dose of about 125 thousandths of one rem (125 millirem). This is quite variable and may be twice as great or half as great, depending on location. At sea level, cosmic rays are better filtered by the atmosphere than at higher altitudes, and proximity to granite mountains increases the dose. Consequently, in Denver, Colorado, the dose can be as much as 200 millirem.

Dose from man-made sources can vary immensely, even for the same examination, depending on technical factors. Under usual circumstances at the present state of the art, a chest film produces at or below 100 millirem and an upper GI examination (with fluoroscopy to limited area of the body) 5 to 50 rem.

The risk associated with such radiation exposure as a diagnostic chest x-ray can be viewed in proper perspective by examining the table of actions having an equivalent risk[1] that appears on the next page.

Thus we see that one chest film exposed in a facility where personnel are properly trained, with proper equipment, carries the same risk as smoking 1.4 cigarettes, living two days in New York or Boston, travelling 300 miles by car, or eating 40 tablespoons of peanut butter.

Since irradiation used in the professions—medical, dental, and others—is by far the largest source of man-made irradiation to the public, it is important to note that even as small as the usual doses are, they can commonly be reduced further by strict following of proper procedure, using proper equipment, with proper maintenance. It is well documented that simple radiographic procedures produced in a well run department can use less than one-third of the dose of irradiation as is used in a department or office where the standards are lax. In this regard, the Governor's Radiation Advisory Council is urging the Virginia State Department of Health to find ways of improving this situation. There are other ways to reduce man-made irradiation exposure and others

ways to reduce hazard to humans. Reproductive organs—where reproduction is a potential—and fetuses should be given special consideration during examinations if radioactivity is involved. Frequently, all this means is that certain areas are shielded; but even if this is impossible, in most cases the benefit of the examination far exceeds the risk.

Other important sources of man-made irradiation are nuclear power plants and nuclear weapons testing. During the height of nuclear weapons testing by the major powers, individuals received approximately 15 millirems per year from fallout. Radiation leakage from the Three Mile Island power plant is said to have produced a maximum estimated dose to one individual on an island near the plant of 37 millirems. As an aside, no one died in this "radiation accident", and, according to reports, no person received more than the maximum permissible annual radiation dose.

It is apparent to us, then, that with the judicious use of radiography in medical and dental practices, the risk of adverse effects is practically nil; and, in any event, the benefits far exceed the risk to the patient.

John A. Martin, MD
Lee S. Anthony, PhD

Department of Radiology, Roanoke Memorial Hospitals, PO Box 13367, Roanoke VA 24033

1. Wilson R: Analyzing the daily risks of life. Technology Review, February 1979, p 45

Risks That Increase Chance of Death by 0.000001*

Smoking 1.4 cigarettes	Cancer, heart disease
Drinking 1/2 liter of wine	Cirrhosis of the liver
Spending 1 hour in a coal mine	Black lung disease
Spending 3 hours in a coal mine	Accident
Living 2 days in New York or Boston	Air pollution
Travelling 6 minutes by canoe	Accident
Travelling 10 miles by bicycle	Accident
Travelling 300 miles by car	Accident
Flying 1000 miles by jet	Accident
Flying 6000 miles by jet	Cancer caused by cosmic radiation
Living 2 months in Denver on vacation from N.Y.	Cancer caused by cosmic radiation
Living 2 months in average stone or brick building	Cancer caused by natural radioactivity
One chest x-ray taken in a good hospital	Cancer caused by radiation
Living 2 months with a cigarette smoker	Cancer, heart disease
Eating 40 tablespoons of peanut butter	Liver cancer caused by aflatoxin B
Drinking Miami drinking water for 1 year	Cancer caused by chloroform
Drinking 30 12 oz. cans of diet soda	Cancer caused by saccharin
Living 5 years at site boundary of a typical nuclear power plant in the open	Cancer caused by radiation
Drinking 1000 24 oz. soft drinks from recently banned plastic bottles	Cancer from acrylonitrile monomer
Living 20 years near PVC plant	Cancer caused by vinyl chloride (1976 standard)
Living 150 years within 20 miles of a nuclear power plant	Cancer caused by radiation
Eating 100 charcoal broiled steaks	Cancer from benzopyrene
Risk of accident by living within 5 miles of a nuclear reactor for 50 years	Cancer caused by radiation

*1 part in 1 million

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OFFICERS OF THE LINE

With a series of photographs of their presidents, VIRGINIA MEDICAL salutes the component medical societies, front line of organized medicine in Virginia.



Presidents past, present and future of the Northern Neck Medical Association gathered jovially for the photographer at a late summer meeting of the component society. Standing are, left to right, Robert E. Beatley, MD, who was president in 1971; Charles D. Price, MD, president now; Melvin B. Lamberth, Jr., MD, who served in both 1952 and 1970; Harold E. Sisson, MD, 1954 and 1968; Paul C. Pearson, MD, 1953 and 1959; J. Motley Booker, MD, 1949 and 1969; and Robert E. Hoyt, MD, immediate past president. In front, left to right, Lloyd T. Griffith, MD, 1965; A. Broaddus Gravatt, Jr., MD, who has been president three times, in 1948, 1956, and 1972; Norman R. Tingle, MD, 1955 and 1962; and Harvey W. Goode, Jr., MD, 1964 and 1977.

First organized informally in 1905, the Northern Neck Medical Association was chartered by The Medical Society of Virginia in 1915, when there were 24 members; that membership total held fairly steady until 1976, when the Neck's first general hospital, Rappahannock General, opened its doors, whereupon the membership rocketed to 44 physicians. The Association's meetings used to occur at the courthouses of the four counties the Neck encompasses: Westmoreland, Richmond, Lancaster and Northumberland; but in 1955 the members voted to dine together at their meetings and so meet now in comfortable companionship at restaurants and clubs in the area. Meetings are quarterly, and for most of them authoritative medical speakers are brought in; but at the meeting at which this picture was taken, Rep. Paul Trible came from Washington to discuss federal affairs.

MEETINGS

January 31-February 3
Annual Meeting of the Virginia Neurological Society, the Homestead, *Hot Springs.* 7 hrs. Cat. I. Dr. Donald B. Nolan, 2920 Lockridge Rd. SW, Roanoke VA 24014.

February 1-2
Rapidly Changing Areas in Tennis, Emergency Medicine and Common GI Disorders (Depts. of Medicine/CME, Medical College of Virginia), Baruch Auditorium, *Richmond.* 7 hrs. Fee, $45. Ms. Glenda Snow, Box 48, MCV Station, Richmond VA 23298, (804) 786-0494. Note: The sessions will conclude early enough to allow participants to attend the United Virginia Bank Tennis Classic to be played at the nearby Richmond Coliseum.

February 14-16
Cardiopulmonary Nuclear Medicine 1980 (Johns Hopkins School of Medicine), *Baltimore.* 20 hrs. Cat. I. Fee, $150. Janet B. Hardy, MD, Div. CME, 720 Rutland Ave., Baltimore MD 21205, (301) 955-5880.

February 16-17
Virginia Regional Meeting, American College of Physicians, with the Virginia Society of Internal Medicine. *Richmond.* James M. Moss, MD, (703) 683-3514.

February 18-22
Nuclear Cardiology In-Service Workshop (University of Miami School of Medicine), *Miami.* Division of CME, PO Box 016960, Miami FL 33101, (305) 547-6716.

February 24-29
11th Family Medicine Review, Session 1, *Lexington, Kentucky.* Frank R. Lemon, MD, University of Kentucky School of Medicine, Lexington KY 40536, (606) 233-5161.

February 25-26
Annual Nephrology Congress (American Heart Association), *San Antonio, Texas.* Karen Rizzo, AHA, 7320 Greenville Ave., Dallas TX 75231.

February 27-March 1
Teaching Conference in Clinical Cardiology (University of Miami School of Medicine), *Bal Harbour, Florida.* See February 18 entry.

February 29-March 1
Annual Meeting/Scientific Program, Virginia Chapter, American Academy of Pediatrics, *Williamsburg* Conference Center. Dr. Ann Johanson, Box 386, University of Virginia Medical Center, Charlottesville VA 22908.

February 29-March 2
9th Annual Postgraduate Seminar in Dermatology (University of Miami School of Medicine), *Miami Beach.* See February 18 entry.

March 2-6
Nuclear Medicine and Diagnostic Imaging (Dept. of CME, Medical College of Virginia), *Williamsburg.* 17 3/4 hrs. Alton R. Sharpe, Jr., MD, Box 1, MCV Station, Richmond VA 23298, (804) 786-6828.

March 2-9
Oncology in General Practice, an Educational Cruise (Comprehensive Cancer Center of the State of Florida/ University of Miami Medical School), *Caribbean cruise.* 38½ hrs. Peter W. A. Monsell, MD, Center House PH-E, 1400 N.W. 10th Ave., Miami FL 33136, (305) 547-6103.

March 5-7
Current Practices in the Rehabilitation of the Spinal Cord Injured Person (Virginia Regional Spinal Cord Injury System, Dept. of Rehabilitation Services/McGuire VA Medical Center/Dept. of CME, Medical College of Virginia), Hyatt House, *Richmond.* 13 hrs. Kathy Johnson, Box 48, MCV Station, Richmond VA 23298, (804) 786-0494).

March 5-8
Internal Medicine 1980, Postgraduate (University of North Carolina), *Chapel Hill.* Office of CME, 319 MacNider Bldg., 202H, Chapel Hill NC 27514.

March 6-8
International Congress on Colonoscopy and Diseases of the Large Bowel, Americana Hotel, *Bal Harbor, Florida.* John P. Christie, MD, 7330 S.E. 62nd Place, Suite 220, South Miami Fl 33143.

March 7
20th Annual Law Institute on Hospitals and Medicine (Medical College of Virginia), Hyatt House, *Richmond.* Jerry L. Norville, Box 203, MCV Station, Richmond VA 23298, (804) 786-9466.

March 9-13
American College of Cardiology, *Houston, Texas.* W. D. Nelligan, 9111 Old Georgetown Rd., Bethesda MD 20014.

March 14-15
Selected Topics in Pediatrics (Eastern Virginia Medical School/Children's Hospital of the King's Daughters), *Norfolk.* Jean E. Shelton, MD, 800 W. Olney Rd., Norfolk VA 23507, (804) 628-3795.

March 21-23
Clinical Diagnosis and Management of Uveitis (Medical College of Virginia), Cascades Meeting Center, *Williamsburg.* 14¼ hrs. Cat. I. Dept. CME, Box 48, MCV Station, Richmond VA 23298.

March 21-23
Neurology for the Practicing Physician (Depts. of Neurology/CME, University of Virginia), *Charlottesville.* 16 hrs. Cat. I. Fee, $120. Office of CME, Box 368, UVa Medical Center, Charlottesville VA 22908, (804) 924-5318.

March 24-29
Pediatric Trends (John Hopkins), *Baltimore.* Edward M. Sills, MD, Johns Hopkins Hospital, 720 Rutland Ave., Baltimore MD 21205.

SERIAL LEARNING PROGRAMS

Williamsburg is the scene each year of a regional continuing medical education conference sponsored by the American Medical Association. In the past these conferences have occurred in the fall; this year they are slated for the weekend of February 15-17. Cooperating with the AMA are Eastern Virginia Medical School, Medical College of Virginia, University of Virginia School of Medicine, and The Medical Society of Virginia. Following are the courses to be offered.

February 15, 8:00 AM-3:00 PM (6-hour, 1-day courses: Member, $70; Non-member, $100)
- Office Gynecology
- Controversy in Management of Gallstones
- Neurology for the Non-neurologist

February 15-17, 8:00 AM-3:00 PM each day (18 hours, 3-day course: M-$180; N-$270).
- Comprehensive Electrocardiography

February 16, 8:00 AM-3:00 PM (6-hour, 1-day courses: M-$70; N-$100).
- Human Sexuality
- Test Tube Babies
- Office Orthopedics

February 16, 8:00 AM-12:00 noon (4-hour, 1-day course: M-$50; N-$70).
- Prescribing Exercise Programs

February 17, 8:00 AM-3:00 PM (6-hour, 1-day courses: M-$70; N-$100).
- Gastroenterology, Review for 1980
- Alcohol and Drug Abuse
- Hematology for the Non-hematologist: Horizons Beyond the Microscope

1980 Annual Meeting,
The Medical Society of Virginia:
November 6-9, Williamsburg

Due Soon: First CME Reports
For Members Whose Names Begin A-G

Effective the calendar year 1979, "all active members of The Medical Society of Virginia shall complete a minimum of 90 hours (30 of which must be Category I) of approved continuing medical education every three years".

For purposes of reporting these CME hours, the active membership has been divided into three groups according to the first letters of their surnames.

Those members whose last names begin with the letters A through G must complete 30 hours (10 of which must be Category I) by January 1, 1980. Their reports must be filed no later than March 1, 1980.

For further information write Dr. Kinloch Nelson, CME Coordinator, The Medical Society of Virginia, 4205 Dover Road, Richmond VA 23221.

B C R P

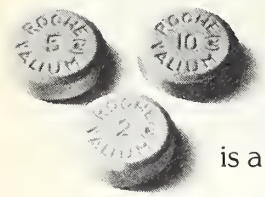
5th Annual Symposium on Advances In Cancer Treatment Research

is being presented by the
Baltimore Cancer Research Program
and
University of Maryland Cancer Program
on

March 6,7, & 8, 1980
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A character all its own.



Valium (diazepam/Roche) is a benzodiazepine with a character all its own. Pharmacologically, it is a potent skeletal muscle relaxant and anticonvulsant (in adjunctive use), as well as an antianxiety agent. Pharmacokinetically, only Valium provides active *diazepam* as well as the active metabolites 3-hydroxydiazepam, desmethyldiazepam and oxazepam.

But the individual character of Valium is even more apparent clinically than pharmacokinetically. And far more significant. That's because of the patient response obtained with Valium. A response which brings a calmer frame of mind. A response which has a pronounced effect on the somatic symptoms of anxiety, particularly muscular tension. A response which helps the patient feel more like himself again because of the way Valium reduces the overwhelming symptoms of anxiety and psychic tension.

Another important aspect of the clinical character of Valium is safety. Though drowsiness, ataxia and fatigue are possible, these and more serious side effects are rarely a problem. Of course, as with all CNS-acting drugs, patients taking Valium should be cautioned against driving, operating dangerous machinery or the simultaneous ingestion of alcohol.

Unquestionably, many psychotherapeutic agents, including other benzodiazepines, have antianxiety effects. But one fact remains: you get a certain kind of patient response with Valium. It's a response you want. A response you know. A response you trust as part of your overall management of anxiety and psychic tension.

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2-mg, 5-mg, 10-mg scored tablets

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Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology; spasticity caused by upper motor neuron disorders; athetosis; stiff-man syndrome; convulsive disorders (not for sole therapy).

The effectiveness of Valium (diazepam/Roche) in long-term use, that is, more than 4 months, has not been assessed by systematic clinical studies. The physician should periodically reassess the usefulness of the drug for the individual patient.

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence.

Usage in Pregnancy: **Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

Dosage: Individualize for maximum beneficial effect. *Adults:* Tension, anxiety and psychoneurotic states, 2 to 10 mg b.i.d. to q.i.d.; alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; adjunctively in skeletal muscle spasm, 2 to 10 mg t.i.d. or q.i.d.; adjunctively in convulsive disorders, 2 to 10 mg b.i.d. to q.i.d. *Geriatric or debilitated patients:* 2 to 2½ mg, 1 or 2 times daily initially, increasing as needed and tolerated. (See Precautions.) *Children:* 1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use under 6 months).

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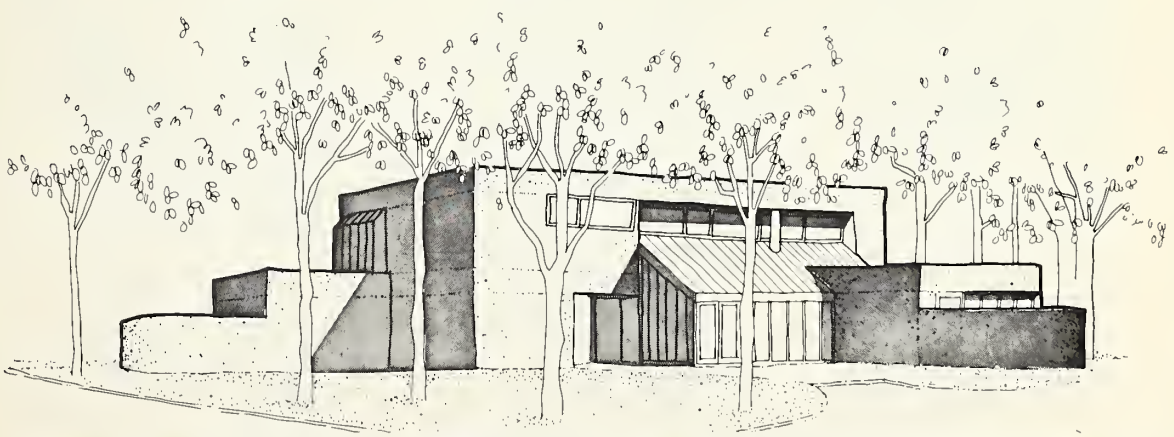
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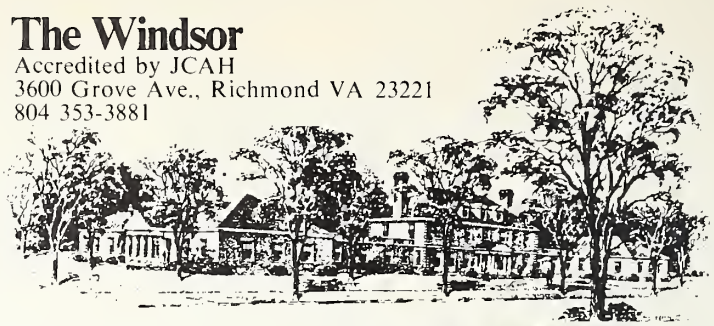
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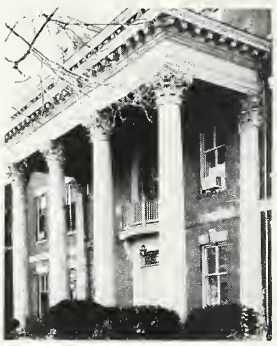
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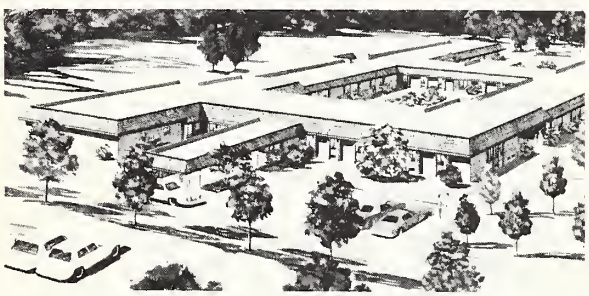
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VIRGINIA
MEDICAL
JANUARY 1980

The Man with the Powerful Scowl

By Carl L. Shires

A. L. Philpott, veteran Henry County legislator, is to move this month into the dynamic post of Speaker of Virginia's House. In an exclusive interview for VIRGINIA MEDICAL, Philpott talks about medical issues that may see action in 1980.

For some people, an office bestows power; others pack power to an office.

It works both ways for A. L. Philpott, the "gentleman from Henry County," who is to take over this month as Speaker of the House—the most potent job in the 140-member Virginia legislature. Even before he became Speaker, the silver-haired Democrat had the appellation of "most powerful man in the legislature" fixed upon him by the Capitol press corps. And veteran lawmakers almost to a man agreed that the press boys had been right—for a change.

Philpott, who came north from Bassett in Henry County to the House of Delegates 22 years ago, bears his press-bestowed title with characteristic modesty.

"If," said he, "that means that I work harder and more diligently, I accept the recognition; if it means I use my position to force opinions from other members of the legislature, then I don't agree. There is one thing I've learned here at the Capitol: You can lead, but you don't drive."

Lead or drive—whichever it is he does, Speaker Philpott's recent history has been one of getting the things he wants done in the Democrat-dominated House of Delegates—and most often in the manner in which he wants them done.

That's partly because A. L. Philpott has one of the most powerful scowls around, a scowl that can wither the stoutest of men. He doesn't need to scream and shout, and rarely does; a Philpott whisper can somehow project more decibels than the loudest bombast.

And it's also because Philpott is unequivocally a Democrat. Even when a statewide Democratic candidate (such as Henry Howell) is not a Democrat suiting Philpott's personal taste, he remains supportive (sometimes very mildly supportive) and does not take the flip-flop, party-changing, yo-yo ride that some Democrats take.

There is family precedent for that. His grandfather served in the General Assembly as a Democrat; his father was extremely active in Democratic politics. And down in Henry County, by gum—where there have been Philpotts residing since before the Revolutionary War—a man takes his party affiliation unswervingly.

As a loyal Democrat, Philpott has not sought rapport with the man upstairs, Republican Governor John Dalton.

The governor injected himself into many House of Delegates con-

Carl Shires was for 25 years a staff writer for the *Richmond News-Leader,* for much of that time specializing in the legislature. He is now a free lance writer.

tests, seeking to get Republicans in there. The governor, a prudent man, did not venture into Philpott territory, merely sending in word—and not very loud word—that he favored the Republicans.

"As far as the general House membership is concerned," Philpott noted in a recent interview, "any honeymoon with Dalton is over. He just got too involved in specific election contests."

As for himself, the Speaker says he isn't on any personal vendetta, "but I suspect we'll let him know that Democrats are still very much in charge down here."

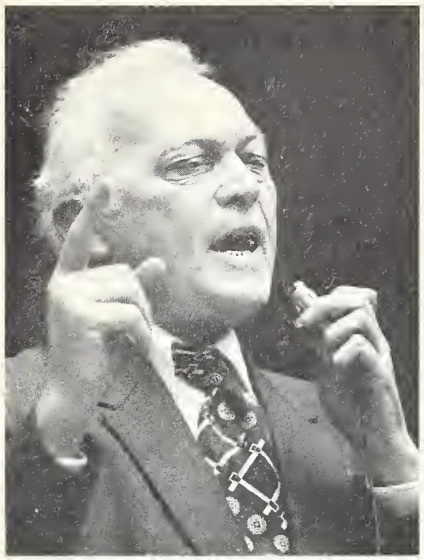
Speaker Philpott had some thoughts concerning legislation affecting the medical profession:

1. From the Speaker's chair, he assured, he will take no stance if another bill is introduced that would provide optometrists with the right to administer certain drugs. "I hope it won't be introduced and set off another bout with the optometrists and opthalmologists," he said.

He supported the optometrists in similar bills in past sessions. "I was committed to do so and I did it," he said. "But I must confess that I grew to have some significant misgivings."

(Governor Dalton has vetoed on two occasions the Assembly-passed bills on optometry. Some say he has quietly passed word to opthalmologists that they'll have to do their own





job of educating the legislators, that he won't feel like bailing them out with another veto. His office will not comment on that. "We don't comment on legislation that hasn't even been introduced," a press secretary said.)

2. Speaker Philpott, lawyer, thinks Virginia's current laws dealing with physician malpractice are just about right. He entertains certain misgivings, however, on the mechanics of malpractice screening panel hearings as legislated in 1976. Primarily, he sees those hearings as "just too expensive"—what with the cost of supplying complete copies of records to three health care professionals, three lawyers and a circuit court judge. "I think some changes can be made that won't necessarily mean additional legislation," he said.

It was Philpott, then an influential member of the Courts of Justice Committee, who finally came to accept the $750,000 limitation on malpractice liability that was part of the 1976 malpractice legislation. That limitation would go generally against his lawyer's grain. But he rose on the House floor to say that although he didn't necessarily agree with the limitation, he liked other features of the legislation. After that relative whisper was loudly heard, the roll call count was 98-2 in favor.

3. On the two major, 20-member House committees dealing with medical matters—Health, Welfare and Institutions, and Courts of Justice—Philpott has played a controlling role in new assignments, including the move to chairman of Health, Welfare and Institutions of Del. William P. Robinson, Jr., Norfolk Democrat who holds an academic doctorate and teaches political science at Norfolk State College.

Speaker Philpott has a major medical problem of his own, cancer of the lymph gland. Twice monthly he undergoes a regimen of chemotherapy at a North Carolina hospital, traveling south from his home. That cancer was discovered eight years ago when he was undergoing a stomach ulcer operation. As a robust, healthy-colored, bull-chested 60-year-old, he doesn't offer the physical picture usually associated with the cancer victim and talks casually and ingenuously of his health.

His potency as Speaker will come from many sources. First of all, he puts people on committees. A clamor of phone calls after the November election had legislators cajoling for choice assignments. "It even got so I couldn't relax at a football game," he said. "I'd have people following me around, advising, asking...." (In the Senate, a steering committee—not an individual—picks committee members.)

And the Speaker sets the tone of the House, determines the ebb and flow of legislation, sees that committees act on the bills before them (it is in committee that proposed legislation falters or flourishes), calls upon his parliamentary know-how to favor or disfavor.

Philpott is a lawyer who knows both sides of the law, defense and prosecution. More recently it has been defense, as he has acted as one of his area's more prominent defense lawyers. But before his election to the House in 1957, he was Henry County's commonwealth attorney.

That double experience has been reflected in the votes he has cast and the decisions he has made on legal matters. On capital punishment, he says this: "The death penalty is not really a deterrent, but I think some crimes are so heinous it is the only proper punishment."

Biographically, Speaker Philpott is a father/grandfather, married to the former Katherine Apperson Spencer. His full name is Albert Lee Philpott; the name "Albert" and the initials "A.L." lend themselves to calling him "Al", but he doesn't like that, it's "A.L." He's a World War II veteran (US Army Ordnance Department, US Army Air Force). He's a Methodist who earned both undergraduate and law degrees from the Baptist-affiliated University of Richmond, and in 1977 the U of R awarded him a Distinguished Alumni citation. The list of organizations—cultural, legal, boards of directors, veterans, etc.—to which he belongs is imposing.

"A.L." is a busy man, an inherently modest man, and a man who walks tall at the Virginia State Capitol.

Like the ad says: When he talks, everybody listens.



Medicine at the General Assembly 1980

At its session beginning this month, Virginia's General Assembly will consider legislation of specific significance to physicians. Here are the recommendations relative to that legislation as prepared by the MSV Legislative Committee and approved by the House of Delegates.

1. Workmen's Compensation.

Last year, an advisory committee to the General Assembly recommended adoption of a medical fee schedule for workmen's compensation claims. The Legislative Committee reviewed the report of the Society's special committee that has been considering the proposed changes.

Recommendation: That, in lieu of the proposed medical fee schedule, the Society support the establishment under the Industrial Commission of five regional committees of physicians who would have authority to review claims for reimbursement for medical care that are alleged to have been excessive.

2. The Willey Commission.

The Legislative Committee reviewed the proposals under consideration by the Willey Commission and made these recommendations: a) support efforts to simplify the procedure for hospitals to adopt a swing bed policy that would facilitate temporary conversion of acute care beds to intermediate care; b) support the enactment of a statute that would regulate health maintenance organizations operating in the state in a manner similar to prepaid health plans and commercial insurers; c) oppose any attempt to give any state official authority to establish criteria to serve as the basis for approving or denying the availability of the exemption from the tax on premium income for any prepaid health plan or commercial insurer; d) support the adoption of a moratorium on the mandating by the General Assembly of additional health care insurance coverage pending further study; e) oppose efforts to require public disclosure of additional financial information about hospitals in the state; f) oppose any effort to involve the health systems agencies in the review of rates charged by hospitals in the state.

3. Optometrists' Use of Drugs in Eye.

Two bills which would have permitted optometrists to use diagnostic drugs in the eye were vetoed by the Governor in 1978 and 1979. It is anticipated that another bill will be introduced during the 1980 Session.

Recommendation: That the Society reaffirm its strong opposition to this bill.

4. Licensing of X-Ray Technologists.

The subcommittee of the State Radiological Advisory Board has recommended that some form of licensing or certifying of radiological technologists be instituted. A bill to accomplish this purpose may be introduced. It is felt that proper inspection of equipment and individ-

ualized training and supervision of such personnel is the best way to adequate protection from excessive radiation exposure. A special licensing requirement could affect health care costs adversely and lead to a shortage of technicians, particularly in rural areas.

Recommendation: Oppose such legislation.

5. Reporting of Medically Impaired Drivers.

Two bills dealing with this subject were introduced in the 1976 Session of the General Assembly. Both bills were killed on the theory that the purpose of the bills could not be achieved without creating additional problems for the reporting physicians.

Recommendation: A study by the General Assembly be made to ascertain the severity of this problem and the need for additional legislation.

6. Child Restraints in Automobiles.

Infants and children are unusually susceptible to injury in automobile crashes, and injury in auto crashes is the largest single cause of accidental death in childhood. Child car restraints have been shown highly effective in reducing death and injury in young children in automobile crashes. Educational efforts which encourage use of these efficacious devices have singularly failed in bringing about any significant increase in car restraint use for children. Legislation in another state (Tennessee) has proven effective in increasing child car restraint use with no additional cost to government for enforcement. The American Academy of Pediatrics and the American Medical Association have called for legislation in all states to require the use of child car restraints.

Recommendation: Strongly endorse the use of child restraints in automobiles.

7. Laetrile.

A bill legalizing laetrile for manufacture and distribution in Virginia could be introduced during the 1980 Session. The House has endorsed the AMA position on laetrile and the members of the Virginia General Assembly have been advised accordingly. Legislators were also advised of the availability of expert witnesses on the subject.

Recommendation: Oppose such legislation.

8. Nurse Practitioners Prescribing Drugs.

There is a strong possibility that legislation permitting nurse practitioners to prescribe drugs will be introduced during the 1980 Session. Although the Society's Joint Practice Committee has recommended that a nurse practitioner formulary be established, the House has rejected this recommendation and has opposed this concept and any legislation dealing with the prescribing of any drugs.

Recommendation: Reaffirm the Society's opposition to this type of legislation.

9. Report on Infant Deaths.

The Department of Health and the Society traditionally have cooperated in investigating infant deaths. Prior to the revision of the Health Code last session, any report of such an investigation could not be admitted in a court of law. It is believed that this provision was left out inadvertently.

Recommendation: Change the law to make any reports inadmissible.

10. Medical Examiner Fee Increase.

A bill to increase the medical examiner's fee from $25 to $50 will be introduced during the 1980 Session. Funds for such an increase are being requested in the budget.

Recommendation: Support.

11. Pituitary Gland Removal in Autopsy.

The AMA model bill which would permit the harvesting of the pituitary gland during mandated autopsies has been recommended for introduction during the 1980 session. Harvesting of such glands would provide a source of growth factor which is unavailable from any other source.

Recommendation: Support such legislation.

12. Health Fair Regulations.

The use of mobile and other types of health fairs has grown tremendously over the past few years. Test results given at these health fairs are suspect in some cases. As a result, the Society, together with the State Board of Medicine and State Board of Health, will study this problem and the necessity for regulating the use of health fairs.

Recommendation: Support the development of regulations for health fairs.

13. Athletic Trainers.

A bill which would create a separate board to regulate athletic trainers was killed during the 1979 Session. The Committee on Sports Medicine feels the State Board of Medicine should consider assuming responsibility for licensing or certification of athletic trainers. It is the Committee's understanding that the Board is now considering this possibility. The Committee also feels that a resolution by the Richmond Academy of Medicine recommending the employment of athletic trainers in each of the senior high schools with a contact sport program, should be endorsed.

Recommendation: Support concept of resolution.

14. Motorcycle Helmet Law.

Another attempt to repeal the motorcycle helmet law is expected.

Recommendation: Reaffirm the

Society's opposition to the repeal of this law.

15. Polyscrips.

The growing use of a variety of forms on which multiple prescriptions may be written has become a source of concern to the Society's Interprofessional Relations Medicine/Pharmacy Committee. Though the Committee's members are aware of the convenience, time and recordkeeping these "polyscrips" offer the prescriber, these forms offer the following serious problems: 1) Multiple prescriptions on one blank widen the margin for dispensing error and constitute a health hazard. 2) The Code of Virginia makes it illegal to write prescriptions for more than one scheduled drug on the same form. A Schedule 3 drug and a Schedule 4 drug cannot appear on the same blank. 3) Lack of uniformity in size and shape leads to considerable filing difficulties for the pharmacist. (It should be noted that the medication profile, which the Committee members strongly endorse, make it easier for the pharmacist to cope with this problem.) 4) Any procedure requiring more time of the pharmacist elevates dispensing costs and thereby the cost of the drug to the patient. 5) Little room is left on the front or back of the multiple prescription form for the pharmacist to record such required notations as date, refill information, pricing, drug manufacturer or brand name dispensed, or precautions for drug sensitivities or intolerances. 6) The patient may be inconvenienced if he elects to fill one of the prescriptions at one time and another at a different time.

Recommendation: Support prohibition of the use of polyscrips.

16. Board of Solid Waste Control.

A resolution sponsored by the Norfolk Academy of Medicine calls for the Society to recommend to the General Assembly that a new Board of Solid Waste Control *NOT* be established, but that the State Department of Health continue to protect the health and welfare of the citizens of Virginia in the matter of solid waste control.

Recommendation: Reaffirm the Society's opposition of the creation of a Board of Solid Waste Control.

17. Mandatory Mumps Vaccination.

The Child Health Committee recommends that Section 22-22.1 of the Code of Virginia be amended to include mumps vaccine along with the other six childhood immunizations. The Virginia Chapter of the American Academy of Pediatrics also supports this concept, and it is hoped that the amendment can be approved during the 1980 session of the General Assembly.

Recommendation: Introduce and support legislation to include mumps vaccine along with the other six childhood immunizations.

18. Adoption of Appropriate Safety Regulation for Mopeds.

There are increasing numbers of injuries and deaths being seen from the use of mopeds, the motor-assisted bicycles which are classified as bicycles and governed as bicycles except that the riders must be 16 years of age. Moped operators are not required to wear helmets, nor are they required to have drivers' licenses. The vehicle is not licensed in the state of Virginia. The Highway Safety Committee feels that, since the moped is neither a motorcycle nor a bicycle, it should be treated as a separate entity, so that adequate safety regulations can be applied. The Highway Transportation Research Council at the University of Virginia has also made this recommendation.

Recommendation: Support the adoption of appropriate safety regulation for mopeds.

MSV Positions

Support

(Listed in order of priority)

1. Establishment of peer review committees to review alleged excessive medical costs in workmen's compensation claims.
2b. State licensure and regulation of HMOs.
6. Use of car restraints for children.
11. Pituitary gland removal in mandated autopsies.
10. Medical examiner fee increase.
9. Confidentiality of State Department of Health infant death investigative reports.
12. Development of regulations for health fairs.
17. Mandatory mumps vaccination.
18. Adoption of appropriate safety regulation for mopeds.
5. Study of need for legislation requiring physicians to report medically impaired drivers.
13. Minimum requirements for athletic trainers employed by secondary schools.

Oppose

(Listed in order of priority)

3. Optometrists' use of drugs in eye.
2c, 2d, 2f. Additional regulation of prepaid health plans; any increase in mandatory health insurance coverage; mandated coverage of chiropractic treatment in prepaid health plans; HSA review of rates charged by hospitals.
8. Nurse practitioners prescribing drugs.
4. Licensing of radiological technologists.
7. Legalization of laetrile for manufacture and distribution in Virginia.
15. Use of polyscrips for prescribing medication.
14. Repeal of motorcycle helmet law.
16. Creation of new Board of Solid Waste Control.

Grand Rounds: Current Dilemmas in the Treatment of Urinary Tract Infections

From the Department of Medicine, Division of Infectious Diseases, Medical College of Virginia/Virginia Commonwealth University. Discussed by Sheldon M. Markowitz, MD.

DR. MARKOWITZ: An editorial appeared recently in the *New England Journal of Medicine* describing the lack of progress in discovering the function of one or another endocrine organ as a "black hole" in the endocrine galaxy. As I perused the literature on urinary tract infection (UTI), I felt a bit like that editorial writer. I was left with several questions in my mind concerning current thoughts and dogma in the diagnosis, therapy, and long term sequelae of urinary tract infections. In addition, my experience at the Medical College of Virginia has shown me that urinary tract infections are clearly the most overdiagnosed, overtreated, and perhaps least understood of all medically important illnesses, this despite the fact that they constitute probably the most common hospital-acquired infection at MCV and, other than the most common viral syndromes, represent the most common form of infection in the United States and probably in the Western Hemisphere. An extensive survey in England of almost 3,000 women reported that almost 22% had urinary tract symptoms over one year and about half, or 11%, sought medical help.[1] Because of the magnitude of the problem, it is important to have a working knowledge of important concepts associated with these infections and to use these concepts in reducing the rather widespread morbidity and occasional mortality of the entity. When we examine the basis for many of our notions about urinary tract infections, we have a difficult time separating fact and myth. The "black holes" become obvious.

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First, there are what appear to be rather simple questions. Are there groups particularly vulnerable to urinary tract infection? Are there any predisposing factors, and what evidence exists for the association? How specific are the clinical syndromes in making the diagnosis? How specific is the urinalysis? How significant is bacteriuria? If the etiologic bacterium is resistant to all antibiotics, the patient may improve anyway. Why? Why is it desirable to localize the site of infection and how does one go about doing this? Is hydration helpful? What about acidification of the urine? How effective are antimicrobials in reducing signs and symptoms? In sterilizing the urine? As prophylaxis? What are the long-term sequelae with and without treatment?

Definition/Classification

To answer these questions, we may first define a urinary tract infection as a spectrum of diseases in

which the common denominator is microbial invasion of any of the tissues of the urinary tract extending from the renal cortex to the external urethal meatus. They may be infectioms of the upper tract (renal parenchyma and ureters) or lower tract (bladder, urethra, and prostate).

Bacteriuria quite simply means bacteria in the urine. Certain investigators gave us the important concept of significant bacteriuria, which is used operationally to describe the numbers of bacteria in voided urine that exceed the numbers usually due to contamination. No implication as to site of infection is made. Asymptomatic bacteriuria refers to significantly infected urine in patients without signs or symptoms of urinary tract infection.

If managing these infections were simply a matter of treating and effecting permanent cures, then everyone concerned—the patient, the patient's family, the physician—would be delighted. But in actuality, urinary tract infections are often repetitive events in the same person; thus when recurrent, they describe repeated episodes of significant bacteriuria with or without clinical manifestations, and can divide these recurrences into two types: relapse, or recurrence with the same organism usually within 1-2 weeks of apparently successful antimicrobial therapy; and reinfection, or recurrence due to a new species or strain. Over 80% of recurrences are due to reinfection, or acquisition of a new organism. This distinction between relapse and reinfection is used by some to delineate upper from lower tract infection: relapse suggests a renal parenchymal or prostatic focus of infection, while reinfection is usually limited to the bladder and is hence easier to treat. This will be discussed later.

Perhaps the most useful classification involves urinary tract infections that are termed uncomplicated and acute, those in which there are no underlying structural or neurological lesions, and those termed complicated, in which these abnormalities are present. This division is valid from a therapeutic standpoint, for complicated infections are for the most part recalcitrant to treatment, and include infections associated with such entities as renal stones, prostatic obstruction, neurogenic bladder, and indwelling bladder catheter. Thus we can formulate a classification based on the foregoing definitions to include the following (Table 1): the acute, uncomplicated urinary tract infection, which is usually the first or second infection in young, sexually active females, usually limited to the bladder, and caused by antibiotic-sensitive *Escherichia coli* emanating from the bowel flora; recurrent UTIs, including relapse and reinfection; complicated acute UTIs, including catheter-related infections; and asymptomatic bacteriuria. Sufficient information is available to permit an analysis of the results of therapy in some of the above classes.

Prevalence

The figures we have on the prevalence of urinary tract infections may be somewhat misleading. Most surveys of various populations have involved the frequency of bacteriuria and not clinical manifestations. So, too, autopsy surveys reflect the frequency of pyelonephritis in highly selected groups not representative of the general population. But despite these objections, certain valuable information can be gained from such surveys. For instance, pyelonephritis or the histologic appearance of pyelonephritis, is second only to glomerulonephritis as a cause of renal failure leading to renal transplantation. One must remember, however, that many things can look like pyelonephritis. Screening for bacteriuria among various hospital populations tells us several things: that a significant proportion of the population having bacteriuria are asymptomatic; that diabetics have a higher percentage of bacteriuria; that patients on certain wards tend to become infected; and that bacteriuria is frequent following catheterization. The question is whether these groups are vulnerable to development of progressive renal failure and other morbid phenomena associated with urinary tract infection.

The prevalence of bacteriuria increases with age and sexual activity and is more common in women. Only in the newborn and after age 60, is urinary tract infection as common or more common in males. Preschool and school-age girls are particularly important because of the incidence of vesico-ureteral reflux in these age groups.

Predispositions

As for the predisposing factors or disease states associated with UTI, these associations are valid in some instances and anecdotal and unverified in others. Instrumentation and catheterization are documented causes. The risk of bacteriuria following a single, carefully performed bladder catheterization is 0.5 to 1% in healthy individuals, but is ten times

Table 1. Urinary Tract Infection Classification.

1. Acute uncomplicated
2. Recurrent
   - Relapse—kidney, prostate
   - Reinfection—bladder
3. Acute complicated
   - Obstruction
   - Instrumentation
   - Pregnancy
   - Bacteremia
4. Asymptomatic bacteriuria

greater in seriously ill patients or those with bladder dysfunction. If indwelling catheters are left in place 3-10 days, 60-100% of patients become infected.

Urinary tract obstruction, as with obstruction in other body systems, markedly facilitates infection. For example, in males, as previously mentioned, UTI is rare until middle age. Thereafter the frequency of prostatic enlargement, bacteriuria, and pyelonephritis increases concomitantly. Classically, experimental canine pyelonephritis can be produced simply by ligating one ureter and injecting organisms into the bloodstream. Even transient obstruction is sufficient to produce infection. More importantly, reversal of obstruction may halt progression of the renal lesion, emphasizing the importance of finding such obstructive lesions in humans.

Diabetes mellitus is associated with a greater frequency of both bacteriuria and pyelonephritis, but only in adult women. Such bacteriuria may ascend, frequently to cause pyelonephritis. Factors mentioned include increased glucose in the urine, resulting in more rapid multiplication of bacteria; more frequent instrumentation; diabetic neuropathy affecting bladder emptying; and intrarenal vascular lesions. Infections may be mild but sufficient to make control of diabetes difficult.

For years there has been some doubt as to the association of UTI, specifically upper tract infection, and hypertension. Both the frequency of pyelonephritis in hypertension and frequency of hypertension in pyelonephritis exceeds that in the general population. In fact, urinary tract infection may exacerbate preexisting hypertension. Several studies, especially those of Kass and co-workers,[2,3] indicate a small but statistically significant increase in frequency of hypertension.

In addition to diabetes and hypertension, the evidence for the association of gout and potassium deficiency with urinary tract infection is mainly histologic. These conditions all produce interstitial changes that resemble the histologic appearance of what is called "chronic pyelonephritis".

Pregnancy prediposes to the acquisition of bacteriuria: about 6% of pregnant women have asymptomatic bacteriuria at the time of their first prenatal visit; 20-25% of these women subsequently develop acute pyelonephritis with or without bacteremia. Acute pyelonephritis probably increases the risk of premature delivery and perinatal death. The relationship of bacteriuria to prematurity has been hotly debated in the literature for years. It now appears from well-controlled studies that the risk of prematurity is higher in untreated bacteriurics than in treated patients. Bacteriuria is probably a minor contributor to prematurity, but it is amenable to treatment and should be eliminated. The urinary tract remains the most common portal of entry for bacteria, accounting for 70-90% of all cases of bacteremia. It is particularly common following manipulation of the genitourinary tract, such as with instrumentation or catheterization. This fact is magnified when one considers that 10% of almost 31 million yearly acute hospital admissions receive indwelling catheters.

Diagnosis

The diagnosis of urinary tract infection involves a four-step approach: 1) recognition of the typical clinical syndromes; 2) documentation of infection; 3) localization of infection; and 4) identification of predisposing factors, if any.

When evaluating clinical syndromes, it is important to remember that there may be a good deal of overlap between upper and lower urinary tract infection. Indeed, infection may occur in the absence of symptoms and vice versa. Concerning cystitis and urethritis, ordinarily there are no systemic manifestations; in fact, 50% of patients with bladder bacteriuria have no symptoms referable to bladder.

The manifestation of infection of the upper tract may be extremely protean. In some instances the diagnosis is made correctly from the syndrome of chills, fever, flank pain and tenderness, nocturia and frequency. Other patients may complain only of frequency and urgency (hence the overlap with lower UTI). Others may have no complaints at all. In general, symptoms tend to correlate with anatomic site, but this is not absolute. These clinical syndromes describe patients with significant bacteriuria, because significant bacteriuria almost always accompanies symptomatic urinary tract infection. However, it has long been recognized that many patients seen with complaints of frequency and dysuria have "negative" urine cultures. In the classic study of Gallagher, Montgomerie, and North in New Zealand, in which 130 patients with these symptoms were studied,[4] 41% had insignificant bacteriuria. Of greater importance was the fact that 41 (or 32%) had sterile urine cultures. They termed this entity the acute urethral syndrome. Subsequently, O'Grady and associates suggested the term "symptomatic abacteriuria". A comparison of the presenting symptoms in individuals with bacteriuria and those with the acute urethral syndrome reveals no significant distinguishing characteristics. Pyruria (>5 WBC/hpf) was present in 13% of both groups with and without bacteriuria. Thus the distinction between bacteriuric infection and the acute urethral syndrome cannot be accomplished solely on clinical characteristics. So the diag-

nosis of urinary tract infection from clinical symptoms and signs alone is a risky business at times. The etiology of the acute urethral syndrome is probably infectious, with chlamydia a likely common agent, although McCormack in Boston was able to culture *Neisseria gonorrheae* from the cervix of 20% of women presenting with symptoms of UTI and negative routine urine cultures. The importance of recognizing this syndrome is that many of these women do not have bacteriuric UTI, will be studied extensively, often treated with toxic and/or costly antimicrobial agents, be subjected to various invasive urological procedures, and will be diagnosed as having recurrent and chronic pyelonephritis.

If clinical syndromes are so misleading, what then? The second diagnostic maneuver is documentation of infection.

A careful and complete examination of the urine is essential for prompt and accurate diagnosis of urinary tract infection. In general, if one or more bacteria are seen per oil magnified field in an uncentrifuged stained preparation, there is a very good probability (>90%) that the urine contains more than 10^5 organisms per ml. The absence of bacteria in several highpower fields when an unstained centrifuged specimen is examined is excellent evidence against the presence of significant bacteriuria.

Pyuria describes the appearance of increased numbers of polymorphonuclear leukocytes in the urine. Contrary to what seems to be prevailing thought, it is not a reliable guide to the presence of infection, as it is seen in all types of inflammation. Anywhere from 3-10 cells per hpf is considered abnormal when found in a wet mount of sediment from a centrifuged urine. In the past, pyuria was thought to be an almost constant finding in the patient with urinary tract infection, and in fact, most patients with symptomatic upper tract infection demonstrate true pyuria. However, when using our criteria for significant bacteriuria as the key to diagnosing, only about 50% of patients have pyuria of the magnitude indicated. Recently, however, it has been shown that <5 WBC/hpf is excellent evidence against UTI. Red blood cells, a variety of casts, and proteinuria are usually of little diagnostic help.

The criteria for what constitutes significant bacteriuria versus contamination have been arrived at from detailed analysis of the distribution of colony counts recovered from the urine of large groups of patients with and without evidence of active UTI. However, I suggest that there is nothing magic about the colony count; it is simply a number designed to provide the physician with a reasonable statistical probability that his patient either has or does not have true or significant bacteriuria. The following guidelines are offered to aid in interpreting colony counts in the urine.

A colony count of 10^5 or more organisms per ml of urine in the first midstream specimen obtained from untreated females by the clean voided method provides the physician with an 80% probability that his patient has true bacteriuria. This probability increases to >90% when two consecutive specimen contain the same organism at 10^5 or more bacteria per ml of urine. Less than 10,000 bacteria per ml in the first specimen obtained from an untreated patient provides the physician with a 98% probability that his patient has sterile urine. The majority (95%) of untreated females, whose initial midstream urine contains a colony count in the indeterminate range (10,000 to 100,000) will not have significant bacteriuria when a second culture of voided urine from the same untreated patient is obtained. All this applies mainly to patients with asymptomatic bacteriuria. What about symptomatic patients? In symptomatic patients with bacteriuria and pyuria, one midstream, clean-voided culture containing 10^5 bacteria or greater carries the same probability that two cultures carry in the asymptomatic person, that is, 95%.

How many ways can we arrive at confusing data from urine cultures and colony counts? See Table 2. Falsely low numbers of bacteria in the urine may appear during a vigorous diuresis, under certain conditions of extreme urinary acidification, by contaminating urine specimens with antibacterial detergents, during current or recent antibiotic use, with total obstruction below the site of infection, or when one is dealing with an anaerobe, *Mycobacterium tuberculosis* or other fastidious organism. Falsely high estimates may occur with improper collection at the time of voiding, contamination of collection equipment, failure to culture promptly or to store at 4°C until it can be cultured. The sources of error in the quantitative culture of the midstream urine are frequent enough so that a single urine culture in an asymptomatic patient does not constitute

Table 2. Urinary Tract Infections: Urine Culture and Alteration in Colony Count.

Falsely low values
Vigorous diuresis
Extreme urinary acidification
Antibacterial detergents
Current or recent antibiotic use
Total obstruction below infection
Fastidious organism
Falsely high values
Improper collection
Contamination of collection equipment
Failure to culture promptly
Failure to store at 4°C til cultured

criteria for starting antimicrobial therapy. This is one of the most frequent situations I've come across. Similarly, a single negative urine culture in a patient with symptoms of urinary tract infection should not be interpreted as the final evidence for the absence of infection. The interpretation of urine specimens obtained by catheterization differs slightly from those obtained as midstream urines. The finding of 100,000 or more bacteria per ml in a single catheterized urine specimen has a probability level of 95% that the patient has true or significant bacteriuria. Uncommonly will a colony count in the indeterminant range of 10^4 to 10^5 be found in a urine specimen obtained by catheterization. When such numbers are encountered, there is a 50% probability that the patient has true bacteriuria. Urine obtained by percutaneous suprapubic aspiration is either sterile or is said to contain significant numbers of bacteria, regardless of what that number is. Our technique being what it is, however, some would allow for small numbers of bacteria due to procurement contamination.

It is extremely important to remember that these numbers and the whole concept of significant bacteriuria apply only to gram negative organisms. It is unclear whether such criteria may be applied to gram positive bacterial organisms such as *Staphylococcus epidermidis* (which is a predominant cause of UTI in Great Britain) and yeast, such as *Candida albicans.* Studies from Minnesota and England suggest that significant bacteriuria for *S epidermidis* may be at the 10^3 to 10^4 level, not 10^5 organisms.

Treatment

Once bacteriuria is documented by whatever means, the patient is usually treated, whether it is asymptomatic bacteriuria, cystitis, or acute pyelonephritis. But we've failed to answer one additional important question, and that is whether we are treating bladder bacteriuria or bacteriuria originating from above. Why is this important? The site of infection may be probably the most important determinant of whether treatment will be successful or not. Infections limited to the bladder are easily eradicated, as a rule, by a short course of almost any drug to which the organism is sensitive at urinary concentrations, while acute or recurrent renal infections may not be. This fact is important when one is dealing with an individual with recurrent infections. Is the recurrence limited to the bladder (which is usually due to a reinfection) or is it from the kidney (which is usually due to the same organism and hence a relapse)? This differentiation of renal from bladder bacteriuria is difficult on clinical grounds alone, especially if the patient is asymptomatic.

Several methods for localizing infection are available. The most reliable and accurate has been ureteral catheterization, that is, direct catheterization of both ureters and quantitatively culturing the urine obtained. As might be guessed, this technique is inconvenient and dangerous, and led to the development of the bladder washout technique for obtaining ureteral urine without ureteral catheterization. The bladder is catheterized, emptied, distended with saline, and irrigated with antibiotic solutions. After the washout process, urine obtained from the bladder is equivalent to ureteral urine. When large numbers of patients were so evaluated by both methods, roughly equivalent data was obtained. Because of its patchy distribution of lesions, renal biopsy is an unreliable tool for estimating the frequency or presence of pyelonephritis and separating it from lower urinary tract infection, not to mention the fact that it is immeasurably more difficult to obtain.

Although the pattern of recurrence is successful in predicting the site 80% of the time, there is a 20% overlap, that is, recurrence with the same organism may be limited to the bladder. Other methods are cumbersome, inaccurate, and nonspecific except for the fluorescent antibody test. In 1974, Thomas and associates reported a simple, noninvasive technique for localizing the site of UTI by the presence or absence of antibody-coated (ABC) bacteria in the urinary sediment.[5] Early reports suggest a high degree of specificity and sensitivity when compared to bladder washout. The presence of antibody-coated bacteria suggested upper UTI and the absence, lower UTI. The most elegant application of the ABC bacteria test is the study of Fang and colleagues reported recently,[6] in which 61 patients with amoxicillin-sensitive UTIs were randomized to receive either a 3 gm single oral dose of amoxicillin or a conventional 10 day course of 1 gm of amoxicillin orally per day. When ABC bacteria were determined, ten of the single dose group were positive and reassigned to the conventional therapy group. All 43 patients without ABC bacteria (and hence with lower urinary tract infection) were cured, whether they received one dose or a ten day course. Of 18 patients with positive bacteria tests, nine relapsed within one week and were re-treated with three weeks of ampicillin or sulfisoxazole. Three patients relapsed after the first course of therapy. The advantages of single dose therapy in terms of ease and convenience of administration, decreased cost, reduced side effects, and increased rate of patient compliance are obvious. In addition, the authors felt it was conceivable that the response to single dose therapy could become a guide to future management. In the majority of patients (those with

infection limited to the bladder), the bacteria would be eradicated, no investigation of the urinary tract anatomy would be necessary and reinfection could be dealt with by similar retreatment and then consideration of long-term prophylaxis. Single dose therapy was reported by Ronald et al in Canada to be successful in 92% of infections localized to the lower urinary tract by bladder washout.[7] For the sizeable minority of patients with asymptomatic renal involvement, single dose therapy would fail, with recurrence of symptoms or positive cultures or both, within one week of initial therapy. These patients would then be candidates for radiologic assessment of their urinary tract and, more importantly, for more intense antimicrobial therapy. If the population that would benefit most from both prolonged antimicrobial therapy and radiologic evaluation could be so delineated, considerable expense and patient morbidity could be saved. However, the picture is not quite as clear-cut as painted by these Boston investigators. Length of followup was short (one month) and the ABC bacteria test has not been as reliable a tool in the hands of other investigators. Its sensitivity is no more than 70% and positive tests have occurred in males with prostatitis and in about 8% of those with lower urinary tract infection as judged by bladder washout. In children the test is neither sensitive nor specific. With better standardization, however, it should become a useful tool in predicting, in some instances, the site of infection.

The evaluation of the patient is incomplete unless we identify predisposing factors, such as structural defects and obstructive lesions. Who should be studied? Experience has taught us, in general, all males should be studied after the first infection, as should all females up to age 14 or 15. With older teenage and adult females, these infections are so common and tend to recur so often in the absence of structural abnormalities that extensive urologic study would seem unproductive. In these age groups, radiologic study could possibly wait until the second or third occurrence, unless the patient is suspected of having underlying disease such as diabetes, or if bacteremia is present.

In the management of urinary tract infections, there are certain principles which help guide therapy[8] (Table 3):

1. The presence of a bacterial infection should be established. Symptoms alone are not sufficient.

2. The elimination of bacteriuria requires the use of antibiotics which are active against the common urinary pathogens and which achieve inhibitory concentrations in the urine, not serum. Disappearance of bacteriuria correlates well with the sensitivity of the organism to achievable urinary levels. This serves to underline the obvious discrepancies sometimes seen between antibiotic sensitivity in vitro and the eradication of bacteriuria.

Table 3. Management and General Principles of Urinary Tract Infections.

1. The presence of bacterial infection should be established.
2. Only antimicrobials to which the organism is susceptible and which reach effective concentrations in the urine should be used.
3. Urinary tract obstruction and other underlying urinary tract abnormalities should be corrected.
4. The absence of bacteriuria after the cessation of antimicrobial therapy is the only valid criterion of cure.
5. Permanent eradication of infection can be insured only after prolonged followup.

3. Underlying urinary tract abnormalities should be corrected if possible. Obstruction from whatever cause not only has a compromising effect on renal function but is also practically eliminates the likelihood of successful antibiotic therapy.

4. The hallmark for the eradication of infection is the absence of bacteriuria following the cessation of therapy. Symptomatic improvement is a poor indicator of successful therapy because symptoms may improve with only slight suppression of bacteriuria. In addition, while bacteriuria may disappear during therapy, recurrence of the original organism (relapse) is not uncommon and can be detected only by obtaining cultures after the completion of therapy.

5. Prolonged followup is required to insure permanent cure. Recurrence of an initially symptomatic and apparently successfully treated infection may be asymptomatic, and constant vigilance by the physician can pay dividends on the patients behalf in reduced morbidity. This is done usually by obtaining periodic urine cultures. A culture obtained 48-72 hours after the initiation of therapy should be sterile. If it is not, then the therapy should be recognized as a failure and the patient should be treated with an appropriate antibiotic chosen on the basis of sensitivity tests. If the culture is negative, additional cultures should be obtained at 1-2 weeks following completion of therapy, monthly for three months, then at increasing intervals for 12-18 months. The patient should be considered cured if there is no recurrence during this period of observation.

Treatment can be divided into nonspecific and specific therapy. High fluid intake theoretically reduces the high osmolarity of the medulla and urine, so phagocytosis precedes more efficiently, and spheroplasts are destroyed. Experimentally in mice, diuresis worsens infection. There is also the theoretical possibility that "pushing fluids" will reduce the urinary concentration of the antibiotic. On the other

hand, "pushing fluids" makes the patient empty his bladder more frequently. Overall, hydration may or may not be beneficial in the patient who is not dehydrated. Urine is ordinarily thought of as good culture medium for most nonfastidious organisms, and this is generally true. Most aerobic bacteria that infect urine grow well at a neutral or alkaline pH and can resistant marked changes in tonicity. However, despite the fact that urine becomes an unfavorable environment at a pH 5.5 or less, acidification was shown over two decades ago to be ineffective in significantly decreasing the numbers of organisms in the urine. The pH does effect the activity of antimicrobials. Some agents, like the penicillins and tetracyclines, are more active at a acid pH, while erythromycin and aminoglycosides are more active at alkaline pH. The activity of nitrofurantoins and sulfonamides are markedly decreased at alkaline pH. These data are so far of theoretical interest only. Manipulation of the pH of the urine has not been consistently successful when applied to the clinical situation.

Antibiotic therapy for various classifications of urinary tract infections is in a state of flux. Although Fang's study showed that one dose was sufficient for cure in symptomatic lower tract infection in the absence of genitourinary abnormalities, the optimum duration of therapy awaits confirmatory studies. However, a more important and essential observation necessary to properly evaluate therapy has not been extensively evaluated: Does antibiotic therapy, when carefully compared to no treatment or placebo, significantly shorten the duration of symptoms, sterilize the urine more quickly and for longer periods of time, decrease the number of recurrences, or prevent endstage renal disease? It seems essential to first determine whether antibiotic therapy helps before we can determine the most effect regimen. Mabeck's observations suggest that antimicrobial therapy was no more effective than placebo in a group of symptomatic uncomplicated UTIs in non-pregnant women.[9] Relief of clinical symptoms did not indicate treatment success since symptoms disappeared before bacteriuria was eliminated in 21 of 23 patients on placebo. Furthermore, there was no significant difference in the numbers of women with sterile urine at one, five, and 12 months after antimicrobial or placebo treatment. These observations raise questions about treating this group of patients at all. It seems likely from the studies of Mabeck, Fang, Harding, and Ronald that these women should be treated with a good deal less than the 7-14 days presently advocated.

The treatment of recurrent disease has become better established in recent years. Occasional occurrences respond very nicely to most any agent, mainly because most recurrences are due to reinfection and hence limited to the bladder. Closely spaced recurrences may be due to relapse from upper tract infection. If this is so, then many experts would suggest a 6-week to 3-month course of therapy, based on sensitivity testing, realizing that the optimal duration of therapy is unknown. If closely spaced recurrences are reinfection and symptomatic, chemoprophylaxis is probably indicated after an initial sterilizing regimen, because it has been shown that, if each recurrence is treated with an effective antimicrobial agent, 20% will go into long-term remission. The studies of Harding and Ronald[10] and Stamey[11] convincingly tell the story of the efficacy of prophylaxis after an initial course of therapy to sterilize the urine. Harding and Ronald studied 40 women with recurrent reinfection-type UTIs, both symptomatic and asymptomatic. Compared to placebo, all regimens were better in reducing peri-urethral colonization by organisms, recurrent bacteriuria, and symptomatic urinary tract infection. Trimethoprim-sulfamethoxazole was the most effective. It has also been shown that, on a cost-benefit basis, it is cheaper to start prophylaxis if the patient has experienced a second infection within a 5-month period.

As for acute complicated infections, methenamine salts and urine acidification are commonly prescribed for suppression of bacteriuria in certain groups of patients with poor bladder function, such as those on spinal cord injury services. The recent work of Vainrub and Musher[12] confirms that these regimens are worthless in catheterized patients, because it takes 60-90 minutes to generate the active moiety, formaldehyde, and the transit time of methenamine is much shorter. Methenamine mandelate did not decrease bacterial colonization nor prevent emergence of infections in those on bladder catheters, nor did it suppress growth and prevent infection in a small group of patients without indwelling catheters. This casts doubts on the efficacy of such therapy in this type of patient.

What about the patient with asymptomatic bacteriuria? Should she be treated? It now appears that in non-pregnant adults without obstruction or symptoms of urinary tract infection, therapy is probably not needed. There are several reasons. Older women with bacteriuria have recurrences predictably, and almost always no underlying lesion can be found. Also, spontaneous remission occurs in up to 20-25% of patients within one year. Furthermore, in non-pregnant women without calculi or structural abnormalities, the development of acute symptomatic pyelonephritis is relatively uncommon. There is good

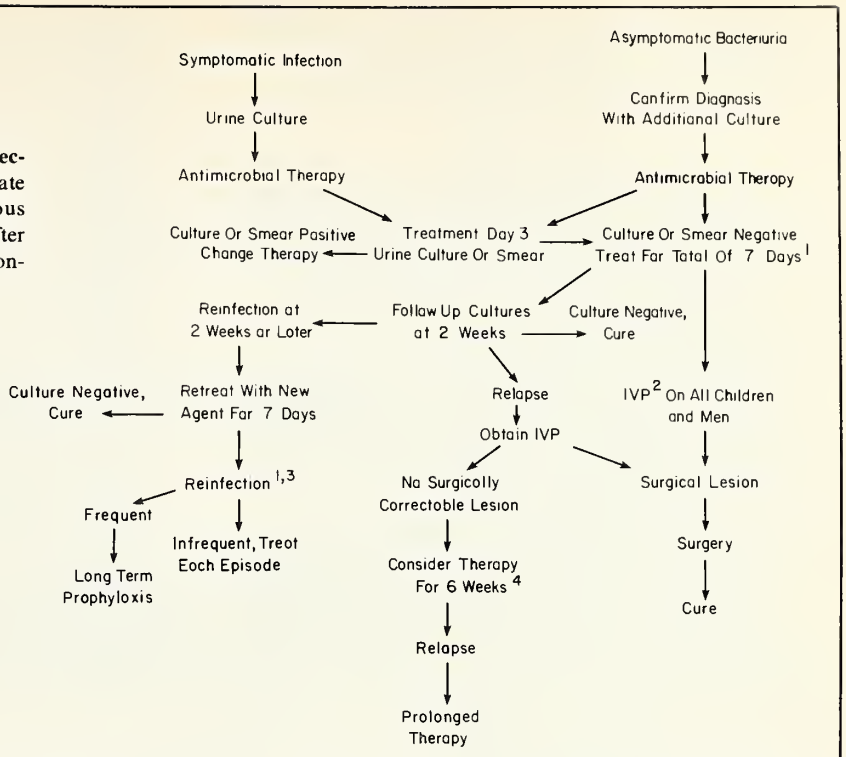


Fig. 1. Management of urinary tract infection. [1]One day of therapy may be adequate for lower tract infection[6,7]. [2]Intravenous pyelogram. [3]Consider IVP in women after the third or fourth infection. [4]In men, consider chronic prostatitis.

evidence now, from Mabeck's study and the US Public Health Service Cooperative Study,[13] that in patients without obstruction to urine flow, infection per se does not commonly produce progressive renal failure. A total of 50 patients had documented persistent bacteriuria for 2-10 years without deterioration of function. In the Public Health Service Study, patients on treatment had less recurrences, less discomfort and less lost work time than those who received placebo. Those with obstruction and calculi did poorly regardless of treatment protocol. All five patients with progressive renal failure had severe urologic disease or concomitant non-infectious renal disease. At 25 months, the difference in infection rate was not statistically significant, reaffirming Mabeck's results. In other words, continued therapy delayed but did not prevent recurrence. Note also that in the placebo group 29% were cured for two years. Because results in patients with underlying disease was so poor, the authors concluded that, unless the treatment decreased the number of organisms in the urine and sterilized it initially, these patients should not be treated.

I believe the most appropriate scheme for managing urinary tract infections at present is the one given in Figure 1, which attempts to bridge the gap between old dogma and new information. This is only a guide, but it seems reasonable in light of recent developments. Finally, the cost of antibiotics should be considered when its time to treat the urinary tract infection; the cheapest, least toxic agents should be used for this purpose.

DR. G. WATSON JAMES III: Would you start your treatment before the culture confirms an infection?

DR. MARKOWITZ: In a symptomatic patient, yes.

DR. JAMES: In a sexually-active female, what would be the drug of choice?

DR. MARKOWITZ: Sulfonamides, clearly. They are the cheapest and probably the least toxic. Unfortunately, the in-vitro sensitivities may not tell you the sensitivity of the organism to this antimicrobial agent.

DR. ALBERT WASSERMAN: Then do you really need the culture?

DR. MARKOWITZ: Some people would store the urine in a refrigerator for subsequent culture in case the patient did not respond to treatment. Some would look at a smear.

A PHYSICIAN: Is there any way to prevent urinary tract infections when there is an indwelling bladder catheter?

DR. MARKOWITZ: This has been studied since the 1950s. Unless the patients are symptomatic, treatment should not be instituted. Suppression of the infection with pH manipulation, for example, may help, but no agent has been shown to be truly prophylactic. Closed-bladder irrigation forstalls the ac-

quisition of bacteria, there is no question about that. But if the indwelling appliance is left in long enough, there still will be the emergence of organisms.

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The Battered Spouse Syndrome

Morgan E. Scott MD, *Radford, Virginia*

Although most often associated with wife-beating by the husband, physical abuse in a marriage may occur in the reverse, with the female abusing the male. The author presents cases of both types and discusses their implications.

WIVES and husbands have battered each other as far back as can be determined by recorded history. Only within the past two hundred years has there emerged a recognition that spouses have rights to be legally protected from each other, where previously it was considered the "right" of a husband or wife to beat on each other within certain bounds.

Illustrative attitudes are found in court rulings of the 19th century. In 1864, a North Carolina court ruled[1] that the court would not interfere with a husband-wife relationship unless "some permanent injury be inflicted or there be an excess of violence." Otherwise, the law will not invade the "domestic forum." In Wales[2], common law provided that a man could beat his wife with a rod the length of a forearm and the thickness of the middle finger. Mississippi law[1] in 1924 allowed beating, provided that the rod was no longer than a forearm nor larger than the thumb. This so-called "rule of thumb" has been in existence in law for many decades.

Biblical support for wife-disciplining is expressed in both Old and New Testaments. In Genesis: "Unto the woman . . . thy desire shall be to thy husband, and he shall rule over thee." This followed the first sin, interpreted by many as the temptation of sex or sexual intercourse by Eve to Adam. Jewish men often said a prayer of thanksgiving for "God not making them women." In the New Testament, in Timothy: "A married woman must learn quiet and perfect submission." St. Peter admonished, "Ye wives be in subjection to your husbands."

Practical interpretations held legally that women could not vote, hold office, own property or have legal status until the last few decades, but during the latter half of the 19th century, new interpretations of law overruled ancient customs and established rights of spouses to be protected from abuse from each other. In 1871, an Alabama court ruled men no longer had "the privilege, though ancient may it be, to beat the wife with a stick, to pull her hair, to choke her, spit in her face or kick her about on the floor." Other courts generally followed these rulings but exceptions occurred. In 1910, the US Supreme Court ruled[1] that a wife had no cause for action against an assault or battery charge against her husband. In 1961, in California, a wife suffered a number of beatings from her husband, took a gun to defend herself and killed him: although it is justifiable homicide in California to kill someone while resisting a felony, Mrs. Jones was convicted, despite the fact that she was resisting a felony.

With these procedural condonements of spouse abuse there also existed the de facto condonements which exist today, despite the fact that spouse abuse is against the law. Numerous sources tend to bear out an unofficial acceptance of marital abuse. The social inequalities in the inferior status of women through our ancient laws and customs tend to carry over in present society.

The extent of wife or husband abuse is unknown, but it is estimated by various sources that approximately 15 million wives or husbands are abused in marriages that are reported to authorities. Steinmetz[3] has claimed that husband abuse is an even more neglected study than that of wife abuse.

In what marriages does wife or husband abuse occur? The following cases evaluate 1) the abuser and 2) the abused, and also the background of the abuser and the abused and the circumstances which produced the abuse.

Abused Wives

Case 1.

The ARs were from entirely different backgrounds. The husband came from a Germanic background, had a difficult and traumatic back-

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ground and upbringing. His father was an extremely domineering and controlling person, who resisted social norms and frequently would do things that were antisocial, although he managed to stay out of the clutches of the law. The marriage of his mother and father was frequently in conflict. There was constant bickering, physical abuse of AR's mother and much instability in the home situation. AR had great difficulty adjusting as he grew up; he was unable to complete college, and he was discharged from the service with a neurosis. Later, he had two periods of inpatient treatment for depression and was in continuous outpatient treatment for 25 years. He is very dependent on his wife. He would often come home from work in a very frustrated and angry mood, beat and threaten to leave her. He was a financially successful person in business. The children's discipline was entirely left to the wife, and Mr. AR blamed her for the failures of the children.

Mrs. AR came from a very disturbed family situation. In early life, she witnessed much abuse of her mother by her father, who openly conducted an affair with a relative who lived with the family. She developed an early distrust of men, continued to distrust men after her marriage and would frequently refer to the men in her life who had let her down. The marriage was filled with difficulties from the beginning. She had difficulty depending on her husband and often had to encourage him to stick to his job. She often accused him of affairs and sometimes had evidence for this and would question him about relationships he had with other women. These accusations created much hostility in the marriage.

Following business trips, the husband would come home in a very anxious and disturbed mood. The wife would frequently nag him about women he had encountered on the trip. There would follow increasing anger, often erupting into wife beatings. Following the beatings, he would feel guilty and, on occasion would express a need to be contained and would ask her to lock him in his room to keep him from beating her. Frequently, he would go into long episodes of silence after these violent episodes.

As psychotherapy has progressed, the wife beating has subsided, but the marriage has developed into a cool, distant relationship.

Case 2.

Mr. LJ was reared in a family with much conflict and quarrels, pouting episodes and prolonged silences, followed with tension. There was much family distrust of outsiders, of doctors, and little discussion of problems. Mr. LJ grew up in this angry, disturbed family and developed into a moody and angry person with a deepseated distrust of women and prolonged episodes of passivity followed by rages. He would often drink excessively and would become verbally and physically violent during his periods of drinking.

Mrs. LJ came from a family with an alocholic father, who even from the time she was 5 years of age, would frequently engage in sex play with her. Her mother was described as an extremely angry woman, who was physically abusive and professed unawareness of the father's behavior. The mother finally abused her daughter to the point that the authorities intervened and took the child out of the home situation; she was placed in many foster homes and developed a very masochistic personality with frequent periods of depression, multiple suicidal episodes and alternating periods of starvation followed by engorgement.

Mr. and Mrs. LJ married while he was in the service, and early in the marriage the abuse started. This usually began with his drinking, followed by her nagging until he became violent. He often beat her until she would have to go to the emergency room for treatment. The couple was recommended for conjoint treatment; however, they would go for only a few visits, would reconcile, and then separate after another period of abuse. She finally sought legal aid, but she went against legal advice and reunited with her husband. This marriage then stabilized for a few months only to repeat its pattern.

Abused Husbands

Case 1.

Mr. KM was born into a large family. When KM was 2, the father died. Shortly thereafter, the mother married an alcoholic man. This cruel, abusive stepfather often abused all the children and the patient's mother to the point that, in preschool years, KM ran away from home and was found by neighbors in the woods. After this, he was placed in the hands of the social agency. He was shifted to several foster homes and finally to a farm, where he worked for a number of years. After some time, his brother, who had been more fortunate in his placement, pleaded with his foster parents to adopt KM, and KM was then placed in this home, which he considered a good one. He and his brother were both treated well by the father, who was strict but kind, but the mother was a very rejecting and cruel person. She often berated the children and was very vengeful when she had the opportunity. After the dealth of the foster father, she disowned the children, and shortly thereafter, KM married. This was during his college years.

Mrs. KM, the wife, was reared in a luxurious home, the only child of an indulgent and affluent family. She never "did anything wrong" and often would get into difficulty during her teenage years to be res-

cued by understanding parents. She did poorly in several colleges and finally met KM. Their initial encounter was one in which they were very attracted to each other, and, after their marriage, were first in blissful heaven; each, at first, had a great deal of devotion to the other. But after an unplanned pregnancy, she started drinking to excess, frequently would accuse him of unfaithfulness and start a verbal barrage, followed by physical beatings. He indulged this until finally she injured him to the extent that he was partially blinded in one eye. After repeated abuses, they finally separated. Mr. KM had endured this abuse for many years. Mr. KM, after the divorce, went through a similar marriage in which he also endured a great deal of physical abuse.

Case 2.

Mr. SE was born in poverty, the youngest of a family of six. The mother was near menopause at the time of his birth. She frequently berated him, as well as the rest of the family, with verbal and physical abuse. During the early years of the Depression, SE's father became quite depressed about the family situation, but he managed to endure this. Mr. SE developed a passion for his work early in life and managed to have a rather successful career. During World War II, he met and married Mrs. SE.

Mrs. SE grew up in an old-fashioned, strict family, where her father was extremely dominating and cruel, and zealous about religious prohibitions. Her father would often beat her, her mother, and her sister for "sinful behavior," such as wearing lipstick. She found her own way of getting along with this restrictive behavior: She would slip out of the home and do things without her father's knowledge. In school, she was caught cheating and was dismissed from two colleges because of this. She met and married Mr. SE while in her third college.

Following the marriage, there was at first a great deal of closeness and mutual dependency: but, after two and a half years, the marriage was placed under stress because of the war. The husband was sent overseas, and she returned to her childhood home. She had by then one child and was berated by her parents, particularly her father, about the way she took care of the child. She became depressed and developed a drug abuse problem and became quite difficult to manage. Upon her husband's return, she frequently directed abuse towards him and would often accuse him of running around and being unfaithful and would threaten to shoot him. In fact, she shot at him with a gun and threatened to abuse him in other ways. Only after abuse of the children was hospitalization considered, and she was hospitalized on several occasions. The abuse continued and, after the near death of one of the children, separation occurred.

Discussion

In each of the four marriages presented, factors in the primary families played some part in abuse. The individual's family backgrounds and the norms established in the original families served to establish what would be tolerated in the marriage. In either male or female spouse, the amount of tolerance of physical abuse was, in a way, directly proportional to the amount that had been tolerated in the original family. Wife abuse of the husband is felt to represent a minority, though a distinct problem, in the pathological warring that exists in husband and wife relationships.

In the successful treatment of spouse abuse, conjoint therapy has been in my experience the most successful. Treatment that begins with the most obvious health-life threat should be the first goal. This includes, of course, the danger of suicide, the danger of homicide, the problem of substance abuse. The establishment of rapport with both spouses is essential, particularly if the marriage survives. Bilateral treatment poses a danger in reinforcing psychopathologic patterns.

In each of these marriages of abuse, there was a history of child abuse and parental problems in the primary family. My own study of abused spouses tends to support a masochistic development, leading to tolerance of extraordinary abuse. The abuse often comes from homes where little limits were enforced. Often the abuser was unable to conceptualize the pain of the spouse.

Pathological factors in the primary families presented precedents for pathology in the cases here reported. All of them give evidence that the abusive marriage is an inherently sado-masochistic relationship, one partner portraying the sadist and one the masochist. Little change can be expected unless the masochistic and sadistic traits are resolved.

Conclusion

This paper deals with spouse abuse problems. Male abuse of the female is preponderant statistically, but female abuse of the male also occurs, with unknown frequency. Four case histories and a brief resume of treatment approach are presented. The goal of treatment should be to correct the skew of the marriage, no matter which sex is being abused.

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Clinical Use of Brainstem Evoked Response Audiometry

Fred T. Shaia, MD, and Paulette Albright, MA,
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BRAINSTEM evoked response (BER) audiometry is a new technique of recording electrical impulses generated along the acoustic nerve within 10 milliseconds of auditory stimulation. The same principles utilized in electroencephalography apply. Surface electrodes are placed on the mastoids and the vertex. Acoustic signals, usually clicks, are presented via earphones.

Because the resulting neuroelectric potentials have such small amplitude compared to spontaneous electrical activity, a large number of stimuli are presented, and an averaging computer sums the responses while random activity is cancelled out. The result is a multiphasic pattern with six waves. The waves are numbered according to their order of appearance and correspond to various anatomical sites along the brainstem. The V wave has emerged as the most obvious and reliable landmark for comparison. Latency is the primary measurement mode.

Pictured in Figure 1 is a normal pattern with the 1st, 3rd and 5th wave noted. This is a typical waveform of a normal hearing adult to loud (83dB) stimulation. Latency of the wave components is dependent on loudness. As intensity decreases latency increases. This is shown in Figure 2.

Because of this intensity-latency relationship, BER can be used to determine approximate hearing levels. To differentiate the type of hearing loss, a series of intensity levels are presented and the rate of latency change evaluated. The rate of change will vary depending on whether the loss is conductive or sensori-neural in nature.[1]

A strong indicator of retrocochlear lesions is the inter-ear difference in Wave V.[2] The speed of neural transmission or central conduction time can identify structural damage or interruption in the myelination of the brainstem.[3]

To exemplify some of these features and how they are clinically useful, the following case studies are reported. All BER tests in these reports were made at the Audiovestibular Center, a new facility at 5855 Bremo Road, Richmond, where brainstem evoked response audiometry is available.

Case 1, Infant Hearing.

The multiple-handicapped child is an evaluation problem to all professionals. L. S. was such a case. At 23 months he showed severe developmental delay, including poor response to sound and no verbalization. It was important to the pediatrician to be sure a remedial hearing loss wasn't present.

Initially, impedance audiometry was employed. The results indicated slight negative middle ear pressure and absent acoustic reflexes. These data did not enable us to answer the question, because the results could reflect normal hearing with a mild middle ear problem sufficient to inhibit the contraction of the stapedius muscle, or a severe cochlear disorder with a secondary conductive problem.

BER provided a solution. The child was sedated and brought to the center where in one forty-five minute session a series of waveforms at progressively softer loudness levels established the child had normal

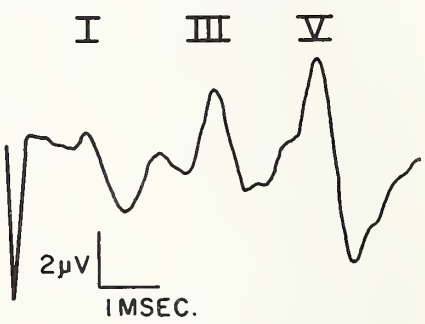


Fig. 1.

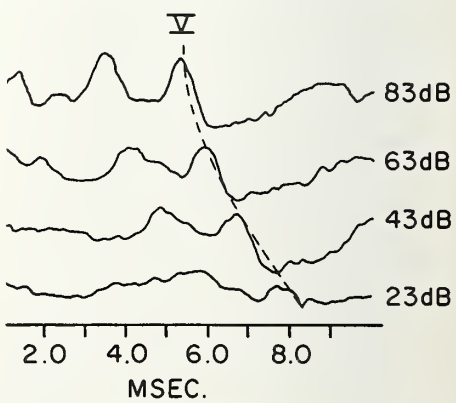


Fig. 2.

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hearing sensitivity. That series is pictured in Figure 3. Conventional play audiometry would have required numerous conditioning sessions and a costly delay in the educational management of this child.

Because brainstem evoked responses are not influenced by sedation, infants and uncooperative children can be tested with this method. Latency is influenced by maturation until about 18 months, where the wave pattern is the same as an adult.[4] Norms are being established for the infant population.

Case 2, Acoustic Neuroma.

Frequently the otologist is called upon to differentiate between cochlear and retrocochlear lesions. In the case of advanced acoustic tumors the contrast is obvious.

The patient, J. J., a 59-year-old female, reported slight drifting when walking, a mild decrease in hearing on the right with tinnitus, and headaches. Her audiological studies including pure tones, speech discrimination and acoustic reflex data suggested a cochlear problem. Electronystagmography revealed a right peripheral lesion. The neuro-otological examination was negative. BER tracings indicated a delay in the emergence of Wave V on the right side.

Subsequently, a myelogram showed non-filling of the right internal auditory canal. A 3mm tumor was removed. Three months postoperatively the patient had normal hearing and speech discrimination on the right. This case dramatically represents the advantages of early diagnosis of VIIIth nerve lesions.

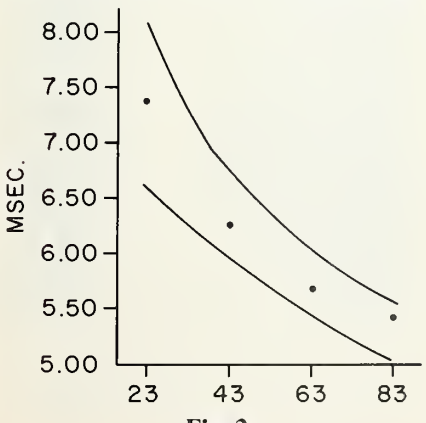


Fig. 3.

Case 3, Non-Organic Hearing Loss.

Non-organic hearing losses whether psychogenic in origin or due to intentional malingering are difficult to evaluate. The objectivity of BER adds a more definitive measure to the audiological test battery.

A mine worker, R. L., applied for compensation because of a hearing loss. Although his occupational history would support the possibility of a noise-induced hearing loss, his auditory behavior and voluntary thresholds were not consistent. Repeated testing at two independent centers had not established reliable and valid thresholds.

The patient was tested by BER and a good wave formation was present bilaterally at high intensity levels. As intensity of the signal decreased, the latency of Wave V increased. This is the expected result, but in the case of R. L. the pattern of latency change indicated a mild loss on the left and a moderate loss on the right. The degree of hearing loss as revealed by BER was not to the extent demonstrated on subjective tests.

Case 4, Neurological Disorders.

The integrity of the brainstem pathway will influence the transmission of auditory nerve impulses. For this reason BER can contribute to the diagnosis of neurological disease. P. M. was a 30-year-female with symptoms of unsteadiness, intermittent tinnitus and a pressure sensation. She also had episodes of blurred vision and limb weakness. These symptoms occurred primarily on the left side.

Hearing sensitivity was within normal limits bilaterally. BER indicated a good wave formation on the right with normal latencies. On the left there was a delay of Wave V, but this was secondary to an elongation of the intra-wave time intervals.

The time difference between Waves I and V is considered a measure of central conduction time and highly correlated with brainstem disease. In this case multiple sclerosis was diagnosed.

Conclusion.

The preceeding cases were selected to illustrate the contribution of BER audiometry in threshold testing for infants and malingerers, diagnosis of VIIIth nerve tumors, and identification of brainstem lesions. We feel, however, that these represent only the fundamental applications of BER and that a whole new diagnostic dimension will evolve.

The only limitations of which the authors are aware in the use of brainstem evoked response is that a patient with a high tone sensorineural hearing loss may have abnormal wave forms or, if the high tone loss is severe, the waves may be totally absent. Brainstem evoked responses are unaffected by anesthesia and drugs. The patient does have to be relatively quiet during the test; this can be accomplished with sedation, if necessary.

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Benign Mediastinal Cyst: Diagnosis and Treatment

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A VARIETY of benign mediastinal cysts are detected in the mediastinum.[1,2] The detection of these cysts has become more common with increasing popularity of routine and mass survey examination of the chest. In this report we present our experience in the diagnosis and management of 40 such cases at Central Baptist Hospital, Lexington, Kentucky.

Materials

The patients were 15 males and 25 females. Their ages ranged from 14 to 72 years; most were 20-40 years of age. Five patients presented with chest pain; the others were asymptomatic and were diagnosed during routine chest x-ray. Additional diagnostic methods, such as penetrated supine view of the chest (x-ray), tomography, fluoroscopy, esophagogram, aortography, angiocardiography, thyroid scan, bronchoscopy and esophagoscopy were performed prior to thoracotomy; these were performed only in certain cases. Thirty-five patients received surgical treatment, such as simple excision (33), lobectomy (1), and pneumonectomy (1). Five patients refused operation. There were three postoperative complications, such as thrombophlebitis, would infection and bronchopleural fistula. There were no operative deaths in this series. The pathologic findings were as follows: Pericardial cyst, 8; bronchogenic cyst, 9; nonspecific cyst, 5; dermoid cyst, 5; lymphatic cyst, 4; thymic cyst, 3; and enteric cyst, 1. Additional pathology, such as calcification or infection and destruction of lung tissue due to expansion, were also noted. All patients have been followed for 6 months to 20 years. Five patients with presumptive diagnosis of pericardial cyst have been followed 2-5 years. Followup chest x-ray showed expansion of the cyst in two cases.

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Case Report

A 34-year-old man was seen because of an abnormal finding on routine chest x-ray. He was asymptomatic at the time of examination and physical findings were within normal limits. Chest x-ray showed an abnormal mass in the right infrahilar region. Barium swallow showed displacement of the distal esophagus by a mass in the right hemithorax (Fig. 1). An exploratory right thoracotomy revealed a cystic mass measuring about 7 cm in diameter in the right infrahilar region, densely adherent to the pericardium and esophageal wall. The cyst was excised. The patient recovered without sequelae or complications.

Comment

Most patients with benign cyst are asymptomatic and are evaluated be-



Fig. 1. Esophagogram showing displacement (arrows) of the distal esophagus by the bronchial cyst.

cause of detection by routine chest x-ray. Additional diagnostic studies[2] are recommended to rule out other causes of mediastinal mass. These cysts are prone to various complications, such as infection, calcification and expansion. A gradual expansion of the cyst could result in cardiopulmonary embarrassment.[3,4] We recommend surgical exploration for the following reasons: (1) No intrathoracic mass can be confidently considered benign without a biopsy. (2) The cysts are prone to complications[5,6] such as infection, hemorrhage, expansion and rupture. Risk in this approach is very small, as shown by this and other reports.

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Emergency Medical Services: Teamwork to Fight Sudden Death

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THE American Heart Association estimates that over 1 million Americans suffer a heart attack each year. Of these, some 666,000 will die, 50% within two hours of their first symptom and without ever having seen a physician.[1] Trauma accounts for over fifteen deaths per hour and is the leading cause of death in the age group 1-43 years, in other words, our most productive citizens.[2]

Were most of these victims in an emergency department when stricken or injured, many of them would live and most would suffer far less disability. The delay of definitive therapy is widely held as a major contributor to deaths due to trauma and myocardial infarction.[3] The salvage rate of other causes of death—poisonings, drowning, surgical emergencies, and neonatal distress syndromes, bears depressing similarities to trauma and cardiac deaths when treatment is delayed.[3] Clearly, a vehicle is required which will hasten the delivery of sophisticated care to these victims. That vehicle is Emergency Medical Services.

Prior to the development of Emergency Medical Services (EMS), emergency care was subject to unilateral efforts often developed from the perspective of a single agency or group. There was no coordinated scheme involving all relevant components, no one was assigned a clear-cut responsibility for the delivery of emergency care, as such; even for those persons or agencies concerned with acute medical care, there was no cohesive, programmatic information available as a format for development. Thus, the maturation of acute care as a multidisciplinary method was neglected until the 1970s.

Legislated in 1973, EMS has grown throughout the nation until today there are over 300 regions. Grants through the Department of HEW and Robert Wood Johnson Foundation have been the primary sources of seed money for these regions.

Emergency Medical Services legislation mandates system development in various administrative and technical areas while stressing the clinical categories of burns, poisonings, acute myocardial infarction, vehicle trauma, cervical spine injuries, neonatal emergencies, psychiatric emergencies, etc. The development of an EMS system is designed to be staged from Basic through Advanced Life Support. It considers not only the prehospital care of the acutely ill or injured patient, but also concerns itself with his clinical and rehabilitative management. The system commitment to a patient from the time of injury or illness until his return to society is the most misunderstood facet of Emergency Medical Services. Most conceive of EMS as simply a prehospital initiative.

Emergency Medical Services theory for the development of a system embraces 15 general components; the more visible of these are manpower and training, critical care fa-

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cilities, patient transportation and transfer, communications capabilities, utilization of public safety personnel, public information and education, disaster planning, and system evaluation. When analyzed and tailored to meet the needs and resources of a given location, these components utilize the entire resources of a geographic area to coordinate effective emergency medical care planning and delivery. It should be stressed that the proper development of an emergency medical services system is just that, a system. It is the integrated, planned efforts of professionals from many areas, including fire, police, hospital administration, consumers, emergency medicine, nursing, and prehospital providers, which results in a comprehensive response to emergency situations.

Good Emergency Medical Services delivery rests squarely upon the expertise of its prehospital and in-hospital providers. It is the responsibility of an EMS system to provide sources of **continuing education and training** in order to maintain a high standard of medical care. Nationally, the program considers two elements of hospital training: ambulance and paramedic. An EMS region may develop further courses of training if deemed necessary. Local option exists for providing specialty care education to physicians and nurses on various topics involving the acute care phase. A great number of EMS regions have adopted the American Heart Association's Advanced Cardiac Life Support course as their minimum standard of training for physicians and nurses in the emergency department and critical care phases.

The primary purpose of an Emergency Medical Services system is to **transport** rapidly the most modern technology available to acutely ill or injured persons. Of cardinal concern are properly equipped ambulance vehicles; these must be placed in consideration of response zones and terrain constraints. Additional transportation factors include the type of vehicles (four-wheel-drive vehicles, water rescue vehicles, etc.), number of vehicles, and the ratio of advanced to basic life support units. EMS is also concerned with the expeditious **transfer** of patients to the most appropriate facility. This involves the development of formalized, physician-signed patient transfer agreements so that patients may be stabilized at the nearest appropriate facility and quickly transferred to another facility when necessary.

Facilities are a resource, and an EMS system must devote itself to analyzing the capabilities of its available facilities and to establishing which facilities can provide superior treatment in given clinical categories. This ensures that the patient will derive maximum benefit from existing regional resources.

Effective Emergency Medical Services radio **communication** between ambulance vehicles and hospitals dramatically increases the speed with which medical assistance may be summoned in an emergency. It permits the practice of advanced life support, appropriate patient triage, and physician supervision of pre-hospital care. Development of a regional EMS communications system is the most expensive element by far of system development; however, it is the one element which ties the entire system together. The federal EMS mandates have guided the establishment of a nationwide plan for these communications, which will eventually link neighboring systems throughout the country. In addition, the communications plan is designed to provide transmission of telemetry from ambulances to hospitals, provision of physician orders for definitive therapy, with mechanisms for day-to-day and disaster response coordination.

To develop any EMS system, the entire program must be directed by a medical professional with total responsibility for system activities, especially in the prehospital phase. The Department of HEW recognizes this fact, and requires establishment of Medical Control as a method for system coordination and quality maintenance. One major function of Medical Control consists of the establishment of one resource facility within a given region, to be responsible for provision of initial stabilizing orders to prehospital providers. This is usually a hospital which receives all initial advanced life support calls, directs treatment, provides triage, and monitors communications to receiving facilities. It also ensures adherence to treatment protocols and patient transfer agreements.

Public safety agencies are included in the development of regional Emergency Medical Services systems because they frequently are involved in disasters and normal emergencies. EMS regions assist these agencies in maintaining and improving medical training. Coordination is also provided for disaster response.

Public information and education constitutes the bulk of an EMS region's preventive medical efforts. The sophistication and training of the citizenry at large is an invaluable asset and the dissemination of knowledge concerning EMS access numbers, poison treatment and prevention, poison control center, burn prevention, and various symptom complexes is of prime importance, as well as first response to heart attack and airway obstruction, and basic first aid techniques.

Disaster response is the ultimate test of an emergency care delivery system. Having established the response pattern for isolated emergencies, regions must develop the ability to respond to multi-victim catastrophies. This involves the preparation of the primary providers: public safety agencies, of-

fices of emergency services, hospitals and rescue services, to respond to these situations in an effective and prompt fashion and demands an analysis of existing capabilities, resources and deficiencies before the disaster strikes. The resulting plan must include input from all of these components in order to be workable.

Emergency Medical Services is the first national health initiative that seeks to justify its existence through a process of detailed **evaluation** of clinical and technical efforts. Methods are devised whereby medical record-keeping and performance reports of various components are periodically reviewed to identify technical or operational deficiencies and the need for modification. Clinical evaluation is conducted through mortality/morbidity indices, incidence, case fatality ratios, cost effectiveness, and the effectiveness/appropriateness of prehospital therapy.

In the vast majority of areas of the country, Emergency Medical Services has been developed as a statewide program, administered through a state agency and developed on a regional level by interested professionals and consumers. Two regions in Virginia, Charlottesville and Tidewater, were established and well on their way to developing advanced life support capabilities prior to leadership by the State Health Department. The involvement of the state agency has been minimal due to lack of funds. Virginia's annual statewide EMS expenditure is approximately $300,000, which pales beside the annual allocations of West Virginia, North Carolina and Maryland, which often exceed $2 million per year. Needless to say, these states have developed EMS systems to far greater extent than Virginia. By contrast, Virginia has eight planning districts with no continuing EMS activity.

As a result, the majority of **Virginia's Emergency Medical Services development** is taking place in six regions. Each region is independently funded by the Department of Health, Education and Welfare and operates as a nonprofit entity. Unfortunately, there is a lack of effective cooperation, with each region tending to act as an isolated center of activity generally relying on its individual expertise and sense of direction. However, plans are now being formulated toward development of a statewide effort to be funded in the next biennial.

Summary

It is estimated that upwards of 20% of accidental highway and prehospital coronary deaths could be averted by the availability of prompt, effective prehospital care;[3] this implies that approximately 35,000 deaths from myocardial infarctions and 12,000 deaths from vehicular trauma are preventable. So, statistically, are 13,000 deaths from cerebrovascular accidents, poisonings, drowning, and other accidents.[3] There are nearly 12 million nonfatal injuries each year, the suffering, cost and disabilities of which are incalculable. It is clear that these statistics demand some type of unified multi-professional response. Although not perfect, Emergency Medical Services is clearly the most effective available means of reversing the present rates of sudden death and disability.

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The Council is supported in part by The Medical Society of Virginia.

PORTRAITS



Initiating a ritual: Dr. Davis (seated), Dr. Nipe (center), and Dr. Steen.

A new ceremonial, an installation service for incoming officers, occurred after the second session of the House of Delegates at The Medical Society of Virginia's Annual Meeting at the Homestead. In the past, the new officers have simply been announced by the chairman of the Nominating Committee and that was that; but Dr. Charles E. Davis, Jr., the retiring MSV President, felt the need for a ritual to mark the accession of the new officers. He asked Mrs. Ruth H. Dize, executive director of the Norfolk Academy of Medicine, to devise an appropriate format, and she put together a brief, effective inaugural ceremony. The installing officer was Dr. Lowell H. Steen, Chairman of the AMA Board of Trustees and a special guest at the meeting, who is pictured above as he installed Dr. George M. Nipe as President. After the service, Dr. Davis transferred to Dr. Nipe the presidential gavel and received in turn the traditional Certificate of Merit and Past Presidents Medal.

Photographs by Hugh Warren, Jr., M.D.



Idea man: Dr. Davis.

The Medical Society of Virginia PROCEEDINGS

Minutes of the House of Delegates

First Session

The House of Delegates of The Medical Society of Virginia met in the Commonwealth Room of the Homestead on Thursday, November 1, 1979. The meeting was called to order by Dr. K. K. Wallace, Jr., Speaker, and the invocation offered by Dr. F. Ashton Carmines.

The Speaker was advised by the Credentials Committee that a quorum was present. Forty component societies were represented by a total of 191 delegates.

Dr. John Krueger then presented the report of his Rules Committee. The rules of procedure were adopted as published in the delegates' handbook.

A motion calling for approval of the minutes of the 1978 Sessions of the House was seconded and adopted.

Mrs. Richard F. Clark, President of The Medical Society of Virginia Auxiliary, was introduced and reported on some of the key Auxiliary accomplishments during the year.

Also recognized was the Auxiliary President-Elect, Mrs. Charles G. Smith.

The Speaker next introduced Mrs. Jeannette Cocke, President, American Association of Medical Assistants, Virginia Society, and Mr. Ken Waddell, President, Virginia Hospital Association.

Dr. William Hotchkiss, member of the AMA Board of Trustees, was recognized for the purpose of introducing Dr. Lowell Steen, Chairman of the Board. Dr. Steen complimented Virginia's AMA delegation and specifically mentioned the contributions of Dr. Hotchkiss and Dr. Palmer. He stated that the public relations potential of physicians over the nation is tremendous and could be one of the greatest forces for good existing today. He deplored the fact that many physicians remain outside the AMA fold and pointed out that they are literally getting a free ride on the backs of those who actively support and participate in the effort to preserve American medicine's cherished traditions and freedoms. Dr. Steen went on to say that if all physicians belonged to AMA, annual dues could be reduced by $68. Also noted was the fact that, at any given moment, some 40,000 physicians are participating in continuing medical education activities.

Dr. Davis then delivered his Presidential Address and reported that The Medical Society of Virginia is healthy, vibrant and growing. He complimented the many committees which have contributed so much to the Society's overall activities.

Dr. Davis expressed serious concern over the deteriorating physician image and expressed his hope and conviction that the revitalized Committee on Public Relations will soon improve the situation.

The President expressed pleasure over the increased activities of medical students in Society affairs and stated that we must encourage the student societies and offer all possible assistance. These young people represent the future of medicine and deserve all the encouragement and guidance this Society can provide.

Dr. Davis called attention to a number of important matters currently before the Congress and General Assembly. He mentioned national health insurance, cost containment, HMOs, Workmen's Compensation, health planning and development, etc. the President made it very clear that the membership must decide now whether it is willing to make every effort to preserve our heritage-regardless of sacrifice and cost.

Following a brief recess, the slate of nominees for the Nominating Committee was presented. All were elected.

Dr. Hotchkiss then reported to the House on AMA activities during the past year. He covered such matters as medical ethics, chiropractic, Federal Trade

Commission, finances and membership campaign. He stressed the need for additional members, giving added emphasis to the comments of Dr. Steen earlier in the day.

The annual report of the Finance Committee, including the proposed budget for fiscal year 1979-80, was presented by Dr. Puzak.The house was advised that the Society had experienced an exceptional year from a financial point of view and that a balanced budget was being proposed.

Following an explanation of several key items, the proposed budget was referred to Reference Committee No. 2.

Two supplemental reports were then received—one from the Committee on Bylaws and the other from the Vanguard Committee. It was noted that the latter report contained 17 recommendations.

The Speaker then declared the session open for new business and reminded the House that any late resolutions must be submitted to the Rules Committee. It was learned that Resolution "W", having to do with Blue Shield coverage for psychiatric care, fell into this category and had been cleared by the Committee.

The House was reminded that all reference committees would meet the following morning at 9:00 AM and that complete agenda and reference committee rosters would available in the registration area.

Following announcements concerning meetings of the Nominating Committee, Rules Committee, reference committees, etc., the First Session of the House of Delegates was declared recessed.

Robert I. Howard, Secretary

APPROVED:
K. K. Wallace, Jr., MD, Speaker

Second Session

The Second Session of the House of Delegates of The Medical Society of Virginia was called to order by the Speaker at 1:30 p.m. on Saturday, November 3, in the Commonwealth Room of the Homestead.

Dr. Robert Morton, on behalf of the Credentials Committee, reported a quorum present. The final official count showed 43 component societies being represented by 183 delegates.

Dr. Paul Rochmis, Chairman, was then called upon for the report of Reference Committee No. 1.

Reference Committee No. 1

The House concurred with the Reference Committee that the following reports be filed: Auxiliary Advisory, Advisory to Virginia Hospital Association, Aging, Public Relations, Rural Health and Sports Medicine.

Report of Cancer Committee

In keeping with the recommendation of the Reference Committee, the House adopted the report of the Cancer Committee along with the following recommendations: 1. The Cancer Committee should include members of The Medical Society of Virginia who are associated with the cancer program of each major medical center. 2. The State Board of Health should be represented on the Committee, its representative to be listed as a consultant and non-voting member.

Report of Committee on Continuing Medical Education

It was the Committee's recommendation—and the House concurred—that this report be adopted along with its recommendation that the chairman of the Committee on Continuing Medical Education be appointed for at least two consecutive years and that the membership, aside from medical school representatives, be appointed in a staggered fashion so that it always contains people with experience. (Prior to the vote, the Speaker pointed out that in accordance with the bylaws, this is a prerogative of the President and that this action, if taken, would be of an advisory nature only and not binding on the President.)

Report of Committee on Mental Health

The report of the Committee on Mental Health contained two recommendations. The first was concerned with an impaired physician program and the House agreed with the Reference Committee that it be amended to read as follows: "The Council of the Society appoint a special committee consisting of other medical specialties, besides psychiatry, to study the impaired physician problem on a Society level."

The second recommendation was concerned with the transfer of all alcohol treatment programs to the Department of Mental Health and Mental Retardation. It was the feeling of the Reference Committee—and the House agreed—that the recommendation not be adopted.

The report of the Committee on Mental Health was then adopted as amended.

Report of Committee on Pharmacy

The House agreed with the Reference Committee that the report of the Committee on Pharmacy should be adopted along with its recommendation that nurse practitioners always be under the direct supervision of a physician and never given authorization to write prescriptions independently.

Report of Committee on Rehabilitation

This particular report contained a detailed explanation of actions taken during the year, one of which was to recommend to the Department of Rehabilitative Services that it not approve weight control as a medical service of the agency.

It was the feeling of the Reference Committee that the action taken would have been more meaningful if the word "clinics" had been added after the word "control". Consequently, it recommended that the House bring this suggested clarification to the attention of the Rehabilitation Committee.

The House agreed and adopted the report of the Committee on Rehabilitation along with the proposed suggestion for clarification.

Report of Council

In keeping with the Committee's recommendation, the House voted to file the following items: Physician Profiles, Nuclear Emergencies, Hall of Fame, Health Fairs, Virginia Association of Professions, Routine Hospital Admissions, Fairfax County Cost Containment Program, and Jail Project.

With reference to that portion of the report containing Pharmacy Committee recommendations, the House agreed that Recommendation 6 should be amended to read as follows: "The Committee discourages *indiscriminate* use of the term 'PRN' as a prescription refill authorization and recommends that physicians be specific in designating (1) the frequency, (2) maximum time limit, and (3) maximum number of refills".

The House also agreed that all Pharmacy Committee recommendations should be communicated to the membership by the most appropriate means.

Special consideration was accorded that portion of the report concerned with the Liaison Committee on Continuing Medical Education. It was agreed that the action of Council to support the decision of AMA to withdraw its membership from LCCME was taken only after considering both sides of the matter.

Presidential Address

The Reference Committee complimented Dr. Davis on his most informative address and recommended that Paragraphs 5, 9 and 25 be filed. The House concurred.

Resolution on Methadone and Operation of Motor Vehicles *(Sponsored by the Fairfax County Medical Society)*

The following resolution was adopted as recommended by the Committee:

WHEREAS, after a recent serious accident that killed the driver of a gasoline tank truck and destroyed a bridge on a busy highway, it was discovered that the operator of the vehicle had a high blood level of methadone, and

WHEREAS, it is noted that it is not standard procedure in drug abuse clinics to warn the patients not to drive while using said medication, and

WHEREAS, it is both the state and federal law that a vehicle should not be driven by an operator under the influence of said drug, be it therefore

RESOLVED, that The Medical Society of Virginia request all people dispensing methadone to warn recipients by verbal and written statements that it is against the law for them to operate a vehicle while using said drug.

Resolution on Cost Containment *(Sponsored by the Fairfax County Medical Society)*

The House concurred with the Committee's recommendation that the following resolution be adopted:

WHEREAS, the American public is intensely aware of rising medical costs and concerned about cost containment, and

WHEREAS, the American Medical Association and The Medical Society of Virginia have previously resolved to act vigorously in matters of health care cost containment, and

WHEREAS, the Fairfax County Medical Society has developed and instituted a program designed to educate physicians and the public in effective ways to contain the rise in health care costs without reducing the quality of care, and

WHEREAS, the Fairfax County Medical Society is willing to share with other societies in Virginia its program and efforts, be it therefore

RESOLVED, that The Medical Society of Virginia make available to all component societies copies of the attached agenda on how medical societies in Virginia might institute their cost containment efforts on the local level.

Resolution on Survival Guide *(Sponsored by the Lee County Medical Society)*

The following resolution was adopted as recommended:

WHEREAS, the telephone directory is the second most frequent book found in the homes of Virginia, and

WHEREAS, Pacific Telephone has published a Survival Guide in cooperation with medical authorities and the state of California which has been a service to that area, be it therefore

RESOLVED, that The Medical Society of Virginia study the feasibility of publishing a similar Survival Guide in the telephone directories of Virginia.

Resolution on Patient Package Inserts *(Sponsored by the Albemarle County Medical Society)*

The Committee recommended that the first "Resolved" portion of the resolution be amended by striking the word "require" and substituting instead the word "request". The House agreed and the following resolution was adopted as amended:

WHEREAS, the Food and Drug Administration in 1978 and 1979 sought the passage of Federal legislation empowering it to mandate so-called patient package inserts or patient labeling for all prescription drugs, without success to date, and

WHEREAS, the Food and Drug Administration, lacking such legislation, has recently announced its intention to require such labeling by regulatory action anyway, and

WHEREAS, numerous spokesmen for the professions of medicine and pharmacy have repeatedly and clearly expressed their profound opposition to these regulations as set forth in the *Federal Register* of July 6, 1979, and

WHEREAS, the implementation of such regulations has been variously estimated to cost the consumer an additional $90,000,000 to $1,800,000,000 annually, and

WHEREAS, an alternative mechanism for the voluntary, individualized dissemination of patient labeling at far less cost will become available January 2, 1980, in the form of the U.S., Pharmacopeia's Dispensing Information, be it therefore

RESOLVED, that The Medical Society of Virginia express its vigorous opposition to these regulations, and that it request from the Food and Drug Administration a written justification including 1) a documented list of the factors necessitating the promulgation of these regulations; 2) a detailed statement of their aims and objectives; 3) a logical rationale to show how these regulations would achieve the proposed objectives; 4) definitions of the specific criteria by which it may be clearly established whether these objectives are reached; and 5) a comprehensive ongoing analysis of the extent to which these criteria are fulfilled, and of the overall financial impact of such regulatory action on the pharmaceutical industry, the professions of medicine, pharmacy, and nursing, and the overall costs of health care,

and be it further

RESOLVED, that endorsement of this request, by means of appropriate action on the part of the American Medical Association, be solicited by customary parliamentary process, and that copies of this resolution be forwarded to our elected representatives in the Senate and House of Representatives.

Resolution on Athletic Trainers *(Sponsored by the Richmond Academy of Medicine)*

It was the recommendation of the Reference Committee that the "resolved" portion be amended by deleting the words "certified (National Athletic Trainers Association)" and substituting the words "properly trained (preferably certified)". The House concurred and the following resolution was adopted as amended:

WHEREAS, it is believed that the presence of athletic trainers provides a higher degree of safety at athletic contests, improves the general conditioning and training of athletes, and materially aides in the prevention of serious athletic injuries, and

WHEREAS, it is also believed that the presence of athletic trainers at this level will provide an adequate source of survey for athletic injuries, be it therefore

RESOLVED, that The Medical Society of Virginia support the principle of employment of properly trained (preferably certified) athletic trainers at the secondary school level for all schools which sponsor an interscholastic athletic program.

Resolution on Health Insurance *(Sponsored by the Norfolk Academy of Medicine)*

The House agreed with the Committee that the second "resolved" should be amended by adding the words "subject to a reasonable annual ceiling". The following resolution was then adopted as amended:

WHEREAS, first dollar comprehensive reimbursement by insurance companies for surgical or medical treatment, hospitalization, laboratory and diagnostic testing is inflationary as it removes the patient from the responsibility of making direct payment, he tends to be unconcerned about the cost of the service, and

WHEREAS, total comprehensive coverage makes it easier for the cost of services to be increased without having to justify the increase directly to patients, thereby leaving them unconcerned with the cost of health care demands, and

WHEREAS, first dollar comprehensive coverage without a minimal deductible amount increases the processing of more forms for small claims by the physician and the third party insurers, increasing overhead costs without providing more health care, be it therefore

RESOLVED, that The Medical Society of Virginia go on record as favoring health insurance with a mandatory mini-

mal deductible cost to the patient or his family each year before any insurance benefits are payable by the third party, and be it further

RESOLVED, that after meeting that deductible amount, the patient be liable for paying a percentage for all costs incurred, including hospital, paramedical and physician charges, subject to a reasonable annual ceiling.

Resolution on Blue Shield Reimbursement *(Sponsored by the Norfolk Academy of Medicine)*

The House concurred with the Committee that the "resolved" portion should be reworded in keeping with suggestions by the Society's legal counsel. The resolution, as amended, was then adopted and reads as follows:

WHEREAS, the Blue Shield Plans of Virginia provide outpatient reimbursement for laboratory tests, and

WHEREAS, many of these laboratory services are for small items such as blood sugar examination, urinalysis, etc., and

WHEREAS, providing each of these small services requires the completion of a detailed claim form to obtain reimbursement, and

WHEREAS, millions of such claim forms are generated annually for minimal services, this creates immense expense to primary care physicians' offices and to the Blue Shield Plan for processing each claim without providing significant health benefit to the patient, and

WHEREAS, this policy of reimbursement by Blue Shield is wasteful and contrary of cost effectiveness, be it therefore

RESOLVED, that The Medical Society of Virginia and Blue Shield Plans adopt a more efficient method of reimbursement to subscribers so that present health care expenditures buy more health services and less paper work.

Resolution on Blue Cross Coverage for Psychiatric Care *(Introduced by Dr. John A. Owen, Jr.)*

Acting in accordance with the recommendation of the Committee, the House adopted the following substitute resolution:

WHEREAS, it is understood that Blue Cross-Blue Shield of Virginia has restricted previous benefits for inpatient treatment of psychiatric disorders, and

WHEREAS, Blue Cross-Blue Shield management has accomplished this both by changing contractual obligations to subscribers and by judgments of "medical necessity", and

WHEREAS, Blue Cross-Blue Shield management has accomplished this both by changing contractual obligations to subscribers and by judgments of "medical necessity", and

WHEREAS, Blue Cross-Blue Shield is considering further restrictions of benefits for inpatient psychiatric conditions and is considering new major restrictions in benefits for outpatient treatment of certain psychiatric disorders, and

WHEREAS, this may have resulted in hardship to many citizens of Virginia and may cause further hardships and may lead to a decrease in the quality of medical care, be it therefore

RESOLVED, that The Medical Society of Virginia agree with the need for cost containment in health care and endorse the position that Blue Cross-Blue Shield of Virginia act to attain cost containment measures by the utilization of independent review mechanisms rather than by restrictions of benefits and elimination of some treatment procedures.

The report, as a whole, of Reference Committee No. 1 was then adopted as amended.

Reference Committee No. 2

Dr. J. Latane Ware was next called upon to present the report of Reference Committee No. 2.

The House agreed with the Reference Committee that the following reports be filed: Executive Vice President, AMA Delegates, Ethics, Grievance and VIRGINIA MEDICAL.

The House also agreed with the Reference Committee that the report of the Membership Committee should be adopted and Dr. Charles E. Davis, Jr., accorded honorary active membership.

Report of Committee on Membership Recruitment

The report of the Committee on Membership Recruitment was adopted along with the following recommendations: 1) that one member from each component student society be added to serve as an ex-officio member; 2) that the Membership Recruitment Committee work very closely with representatives of the student body of the Eastern Virginia Medical School in order that a society can be established.

Report of the Committee on Long-Range Planning

The House concurred with the recommendation of the Reference Committee that this particular report be filed. It was noted that the Reference Committee shared the concern expressed in that section of the report calling attention to the apparent belief that the office of First Vice President represents an automatic step to the office of President Elect.

Report of Insurance Committee

The report of the Insurance Committee was considered jointly with Resolution "M" on Professional

Liability Premiums, sponsored by the Tazewell County Medical Society. The House concurred with the Reference Committee that the report be filed.

The House also agreed with the Committee that the "resolved" portion of the resolution should be reworded in such manner as to stress geographical and specialty risk factors. The resolution, as amended, was then adopted as follows:

WHEREAS, the risk of medical malpractice action to any particular category of physicians is variable and dynamic, requiring frequent study and updating of loss experience data, and

WHEREAS, there is general agreement that medical liability insurance premiums should reflect the actual cost and risk of providing insurance to any particular category or group, be it therefore

RESOLVED, that The Medical Society of Virginia reaffirms the concept that premium schedules for medical liability insurance should be based on geographical and specialty risk factors for providing that insurance.

Report of Council

In keeping with the Committee's recommendation, the following items were approved as presented: VaMPAC, Medicare, Travel Program, Continuing Medical Education, University of Virginia Student Medical Society, Registered Agent, Ethics and Feasibility Study.

With reference to that portion of the report concerned with specialty representation in the House of Delegates, the Committee voiced its support in principle. It recommended that a committee be appointed by the President to study the feasibility and mechanics and present a report to the House during its next regular meeting. The recommendation was adopted.

Considered next was the matter of presidential remuneration. It was the Committee's recommendation that, beginning with the incoming President, the Society's chief officer receive an expense allowance of $500 per month. It was further recommended that he be provided an expense account of up to $4,000.

A motion by Dr. Martin to amend the latter recommendation by increasing the expense account from $4,000 to $7,500 was seconded and adopted.

The Committee's recommendations were then adopted as amended.

Bylaws

The annual report of the Bylaws Committee and the Report of Council on the subject were considered in conjunction with the proposed revision. The Reference Committee recommended—and the House concurred—that Section 6 of Article VI (Election of Officers) be amended by adding the following additional paragraph on vice-councilors: "A Vice-Councilor shall be elected annually from each Congressional District to assist the Councilor for his District and to substitute for him when the Councilor is unable to perform his duties. Vice-Councilors shall be requested to attend all meetings. Any Vice-Councilor may speak on behalf of his Congressional District, but he shall have no right to vote."

It was the feeling of the Committee that Section 13 of Article IX (Committees), pertaining to Vanguard, needed clarification. Consequently, it was recommended that the second sentence having to do with representation from the health service areas be amended to read as follows: "Each health service area established in Virginia pursuant to the National Health Planning and Resources Development Act of 1974 shall be represented on the Committee."

The proposed revision of the Bylaws was then adopted as amended.

Resolution on AMA and Health Service Planning

(Sponsored by the Halifax County Medical Society)

The following resolution was adopted as recommended by the Committee:

WHEREAS, the American Medical Association has recently undertaken to involve itself more actively in health planning through its Council on Medical Services, and

WHEREAS, The Medical Society of Virginia and a number of other state medical societies have successful programs, such as Vanguard, and have had valuable first-hand experience in dealing with PL 93-641 as it has been sequentially implemented, and

WHEREAS, the knowledge gained through Vanguard and the activities of other physician groups should be shared throughout the country, be it therefore

RESOLVED, that the AMA Council on Medical Service be requested by the Virginia Delegation to the Interim House of Delegates meeting in December to undertake a study of state and component medical society experience, this information to be included in the proposed AMA Health Planning Guidebook and in communications of the PAD Memo.

Presidential Address

After commending Dr. Davis on his excellent address, the Committee recommended that the following paragraphs be filed: 1, 2, 3, 4, 6, 10, 12, 13, 14, 15, 16, 17, 19, 26, 27, 28 and 29. The House concurred.

Financial Report and Proposed Budget for Fiscal 1979-1980

The Finance Committee was commended on its presentation of a balanced budget. The Committee pointed out that, in keeping with an earlier action of the House with reference to an expense allowance for the President, a new item designated "Expense Allowance" should be added to the budget. The item would carry an authorization of $6,000. The House agreed.

The following budget was then adopted as amended:

Expenses	Proposed
Salaries, including Continuing Medical Education & Vanguard	$216,749.00
Printing & Mailing Services - Membership	6,000.00
Stationery and Supplies	9,500.00
Office Equipment: Repairs & Replacements	2,500.00
Building Maintenance & Repairs	25,000.00
Telephone	10,500.00
Postage	5,000.00
Convention Expenses	12,500.00
Council and Committee Expenses	8,600.00
Travel Expense	
Delegates to AMA	16,000.00
Executive Vice President & Staff	3,500.00
Virginia Medical	80,000.00
Legal Expense	49,000.00
Walter Reed Commission	500.00
Woman's Auxiliary	250.00
Membership Dues (Affiliated Organizations)	1,100.00
Editor - Virginia Medical	1,250.00
VaMPAC (Educational Fund)	30,000.00
Newsletter	1,500.00
Presidential Expense Allowance	6,000.00
Presidential Expense Account	7,500.00
Employee Benefits	
Retirement Fund	47,500.00
Payroll Taxes	11,500.00
Blue Cross-Blue Shield	4,700.00
Legislative Expense	5,500.00
Continuing Medical Education	14,000.00
Miscellaneous	2,000.00
Special Appropriations	
Malpractice Insurance Feasibility Study	$ 8,000.00
Va. Council on Health & Medical Care	8,000.00
AMA-ERF	1,000.00
Rural Health	500.00
Scholarship - MCV (Administered by The Medical Society of Virginia)	2,000.00
Scholarship - UVA School of Medicine (Administered by The Medical Society of Virginia)	2,000.00
Scholarship - Eastern Virginia Medical School (Administered by The Medical Society of Virginia)	2,000.00
National Society for Medical Research	150.00
Miscellaneous AMA	2,500.00
Insurance Premiums	4,000.00
Vanguard	
ESD Company - Consultants	33,000.00
Medical Service Consultants, Inc.	99,000.00
Public Relations	
Consulting Services	33,000.00
Committee Contingency - if needed	7,000.00
Student Medical Society - MCV	1,400.00
Student Medical Society - UVA	1,400.00
Computer Operation and Maintenance	8,000.00
Total Expenses	$791,099.00

The report, as a whole, of Reference Committee No. 2 was then adopted as amended.

Reference Committee No. 3

Dr. George Broman was then called upon to present the report of Reference Committee No. 3.

The following reports were filed as recommended: Legislative, PSRO Liaison and Vanguard.

Report of Committee on Child Health

The House concurred with the recommendation that the Virginia Code be amended in such manner as to include vaccination for mumps among those immunizations required for children in the state.

That portion of the report having to do with auto seat restraints for children was considered jointly with Resolution V, which addressed the same subject. The House agreed that this resolution should serve as a vehicle for articulating the position of the Society on this very important issue. Consequently, recommendations of the Child Health Committee and Highway Safety Committee relating to seat belt restraints were not adopted.

In its consideration of Resolution V, the Reference Committee recommended a substitute resolution which, in its second "resolved," called upon the General Assembly to implement an in-depth study of the need for child restraints for the purpose of ultimately developing appropriate legislation.

Dr. Robert Hudgens moved to amend the substitute Resolution by deleting the second "resolved." This motion was seconded and adopted.

The substitute resolution was then adopted and reads as follows:

WHEREAS, infants and children are unusually susceptible to injury in automobile crashes, and

WHEREAS, injury in auto crashes is the largest single cause of accidental death in childhood, and

WHEREAS, child car restraints have been shown highly effective in reducing death and injury in young children in automobile crashes, and

WHEREAS, educational efforts which encourage use of these efficacious devices have singularly failed in bringing about any significant increase in car restraint use for children, and

WHEREAS, legislation in another state has proven effective in increasing child car restraint use with no additional cost to government for enforcement, and

WHEREAS, the American Academy of Pediatrics and the American Medical Association have called for legislation in all states to require the use of child car restraints, be it therefore

RESOLVED, that The Medical Society of Virginia strongly endorse the use of child restraints in automobiles, and be it further

RESOLVED, that the House of Delegates direct the Public Relations Committee to make the importance of child restraints in automobiles a primary subject for attention in the coming year.

Report of Highway Safety Committee

As previously noted, that portion of the report of the Highway Safety Committee having to do with child restraints was not adopted.

The Reference Committee agreed that legislation should be enacted to insure the adoption of appropriate safety regulations for mopeds. The House concurred.

The House also agreed with the Reference Committee that a recommendation supporting legislation which would permit physicians to report impaired drivers be not adopted. The House did, however, agree that a recommendation contained in the supplemental report of the Legislative Committee be endorsed. This particular recommendation calls for a study by the General Assembly on this most complex issue.

Supplemental Report of Legislative Committee

The following items contained in the supplemental report of the Legislative Committee were adopted as recommended: Workmen's Compensation, Optometrists' Use of Drugs in Eye, Reporting of Medically Impaired Drivers, Laetrile, Nurse Practitioners Prescribing Drugs, Publication of Votes on Key Issues, Report on Infant Deaths, Medical Examiner Fee Increase, Health Fair Regulations, Athletic Trainers, Motorcycle Helmet Law and Board of Solid Waste Control.

Following considerable discussion, the House also agreed with that portion of the report which would oppose legislation requiring the licensing or certifying of radiological technologists. It was believed that a licensing requirement could affect health care cost adversely and that proper inspection procedures and good training and supervision could provide adequate protection.

As the result of an earlier action, the House voted to reject a recommendation having to do with the reporting of medically impaired drivers.

Also receiving special consideration was that portion of the report dealing with polyscrips. Following considerable discussion of the pros and cons, the House agreed to support the recommendation of the Legislative Committee that efforts be made to prohibit the use of polyscrips.

Next to be considered were six recommendations offered by the Legislative Committee bearing on proposals under study by the Willey Commission. The Reference Committee recommended - and the House concurred - that Recommendation D be amended to read as follows: "Support the adoption of a moratorium on the mandating by the General Assembly of additional health care insurance coverage pending further study."

The House also agreed with the Reference Committee that Recommendation E be amended to read as follows: "Oppose efforts to require public disclosure of additional financial information about hospitals in the state."

That portion of the report dealing with the Willey Commission was then adopted as amended.

The House then turned its attention to that part of the report having to do with the removal of the pituitary gland during autopsies. The Reference Committee recommended - and the House agreed - that reference to "routine" autopsies should be changed to read "mandated" autopsies. That item was then adopted as amended.

Report of Committee on Maternal Health

The Reference Committee concurred with a recommendation that the Department of Health prepare materials for distribution regarding the risk of consuming alcohol during pregnancy and that all pharmacies selling home-use pregnancy tests provide with each kit information regarding the fetal alcohol syndrome. The House agreed.

Although the report contained a recommendation that legislation be enacted which would require all places of business selling alcohol to display warnings

about the risk of consuming alcohol during pregnancy, the Reference Committee disagreed and recommended that it not be adopted. The House concurred.

Also contained in the report was a recommendation that The Medical Society of Virginia seek further legislation to exempt from malpractice exposure any physician providing free inpatient care to medically indigent persons. The Reference Committee recommended against adoption and the House concurred.

The House then agreed with the Reference Committee that the remainder of the report be filed as presented.

Supplemental Report of Vanguard Committee

The House agreed with the Reference Committee that Item 8 of the supplemental report be amended to read as follows: "The Society should endorse the immediate enactment of HR-3999 to exclude PSRO organizations from designation as agencies of the federal government and liability to the provisions of the Freedom of Information Act, and the Virginia delegation in Congress should be advised promptly of the Society's position."

Item 16 of the report called for a Society study of homes for the aged. The Reference Committee pointed out that such a study has recently been completed by a committee of the General Assembly and, for this reason, the recommendation for a study should not be adopted. The House concurred.

The supplemental report of the Vanguard Committee was then adopted as amended.

Report of Council

In keeping with the Committee's recommendation, the House voted to file the following items: Vanguard, Workmen's Compensation and HMOs.

The Reference Committee then recommended that that portion of the report voicing opposition to Senate Bill 351 (Compulsory Catastrophic Health Insurance) not be adopted. The House concurred.

Presidential Address

The Committee commended the President on an outstanding address and recommended filing for Paragraphs 7,8,11,18,20,21,22,23 and 24. The recommendation was adopted.

Resolution on Workmen's Compensation *(Sponsored by the Fairfax County Medical Society)*

The House concurred with the recommendation that this resolution be referred to an ad hoc committee on Workmen's Compensation for the purpose of initiating discussions with appropriate representatives of the insurance and business community.

Resolution on Use of Degrees and Titles *(Sponsored by the Lee County Medical Society)*

Acting in accordance with the Committee's recommendation, the House voted that this resolution be not adopted.

Resolution on Medicaid *(Sponsored by the Lee County Medical Society)*

The Committee pointed out that the subject matter of this resolution has been covered by a recent action of the Department of Health. The Committee's recommendation that the resolution be filed was adopted.

Resolution on Vanguard and Local Health Planning *(Sponsored by the Halifax County Medical Society)*

The House agreed with the Committee's recommendation that this resolution be adopted.

Resolution on Federal Guidelines and Standards *(Sponsored by the Halifax County Medical Society)*

The Committee noted that the studies recommended in this resolution are being conducted by the Vanguard Committee. It was recommended that the resolution be filed and the House agreed.

Resolution on Cost Projections *(Sponsored by the Halifax County Medical Society)*

It was the Committee's recommendation that the resolution be amended by placing a period at the end of the first "resolved" and deleting the second "resolved" in its entirety. The house agreed and the following resolution was adopted as amended:

WHEREAS, Health Systems Agencies have proposed to undertake a broad range of actions to implement the numerous goals and objectives cited in Health Systems and Annual Implementation Plans, and

WHEREAS, many Health Systems and Annual Implementation Plans do not adequately detail the costs of the programs recommended, and

WHEREAS, it is impossible for communities to judge which services or programs they can afford unless the costs of such to all concerned are made known, be it therefore

RESOLVED, that The Medical Society of Virginia direct its Vanguard Committee to prepare a summary report detailing the scope and extent of deficiencies in cost information uncovered during the review of 1980 HSPs and AIPs.

Resolution on Increased Vanguard Involvement *(Sponsored by the Halifax County Medical Society)*

The following resolution was adopted as recommended by the Committee:

WHEREAS, physicians of The Halifax County Medical Society are deeply concerned about the many issues and problems they have found in the enactment of the Health Planning and Resources Development Act of 1974 (PL 93-641), and

WHEREAS, The Medical Society of Virginia has formed a Vanguard Committee to address these issues on its members' behalf, and

WHEREAS, health policy questions and the allocation of scarce resources must be determined on local communities with full participation of practitioners of medicine in order to be accomplished in a reasonable and realistic manner, and

WHEREAS, the Vanguard Committee has made an admirable effort in providing local physicians with guidance in this confusing and often overwhelming issue, be it therefore

RESOLVED, that the Vanguard Committee be commended for its activities to date, and be it further

RESOLVED, that the Vanguard Committee be urged to increase its support to concerned Medical Society members of local Vanguards and of health planning agency committees, and other groups.

Resolution on HSA-PSROs and Quality of Care *(Sponsored by the Halifax County Medical Society)*

In keeping with the Committee's recommendation, the following resolution was adopted:

WHEREAS, Professional Standards Review Organizations (PSROs) are the only federally funded agencies vested with the legal responsibility and have the expertise to implement and monitor professionally-accepted standards, norms and criteria affecting the delivery of medical care in health care facilities, and

WHEREAS, some Health Systems Agencies have attempted to assume responsibility for assessing quality and appropriateness of medical care rendered by physicians in health facilities through the formation of HSA-sponsored and directed study committees and task forces, and

WHEREAS, the Department of Health, Education and Welfare has not adequately clarified or defined the roles and functions of the PSRO and HSA in health planning and delivery of health services, be it therefore

RESOLVED, that the AMA Council on Medical Service be requested by the Virginia delegation to the interim meeting of the AMA in December 1979, to delineate PSRO and HSA roles, responsibilities, and functions in medical care planning, assessment, and delivery, and be it further

RESOLVED, that The Medical Society of Virginia, through its Vanguard Committee, aid the delegation by summarizing inconsistencies between HSA and PSRO capabilities and responsibilities as it has detected in them the most recent reviews of HSPs and AIPs.

Resolution on Solid Waste Control *(Sponsored by the Norfolk Academy of Medicine)*

The House, acting on the Committee's recommendation, adopted the following resolution:

WHEREAS, the removal of the Division of Solid Waste Control from the State Department of Health, as presently proposed, would allow for insufficient surveillance of problem areas throughout the sate (unless a new and costly administrative unit of government was created) with the possible consequence of health hazards to the population, be it therefore

RESOLVED, that The Medical Society of Virginia recommend to the General Assembly of the State of Virginia, that a new Board of Solid Waste Control *NOT* be established, but that the Sate Department of Health continue to protect the health and welfare of the citizens of Virginia in the matter of solid waste control.

Resolution on Mobile Laboratories *(Sponsored by the Norfolk Academy of Medicine)*

The Committee called attention to the fact that the recommendations contained in the resolution have already been enacted into law. It recommended, therefore, that the resolution be filed, and the House concurred.

Resolution on Blood Pressure Testing *(Sponsored by the Norfolk Academy of Medicine)*

After agreeing with the Reference Committee that the "resolved" portion of the resolution should be deleted and a substitute "resolved" inserted, the House adopted the amended resolution as follows:

WHEREAS, the recent influx of those persons who have come into the Tidewater area for the purpose of testing blood pressure and soliciting contributions has again been noted by both the practicing physician, and by the public in general, and

WHEREAS, conditions under which such blood pressure testing is done are, in many instances, stress or pressure conditions in an uncontrolled environment, and present incorrect and inaccurate readings resulting in unnecessary concern on the part of those persons being tested, and

WHEREAS, licensing for these persons allowing for this type of solicitation is now handled at a state level, rather than through the local city governments, be it therefore

RESOLVED, that The Medical Society of Virginia work with the Board of Health, the Board of Medicine and the General Assembly to authorize local regulation of blood pressure testing or to take such other action as may be necessary to insure appropriate regulation.

Resolution on Use of Drugs by Optometrists *(Sponsored by the Norfolk Academy of Medicine)*

The House concurred with the Committee's recommendation that the following resolution be adopted:

WHEREAS, the American Medical Association in 1973 strenously opposed the use of drugs by optometrists for the diagnosis of disease or injury of the eye, and

WHEREAS, The Medical Society of Virginia has gone on record in repeated opposition to the use of drugs by optometrists for diagnosis and injury, and

WHEREAS, major national efforts on the part of optometry to obscure the difference in optometry and ophthalmology, to further confuse the public as to services offered and adquacy of training, are currently underway, and

WHEREAS, this national effort has brought about changes in both West Virginia and North Carolina laws to provide optometrists with the capacity to utilize drugs in the eye without adequate training, be it therefore

RESOLVED, that The Medical Society of Virginia reaffirm its stand against the use of optometrists and inadequately trained non-medical personnel for the diagnosis of eye disease and eye injury, and be it further

RESOLVED, that The Medical Society of Virginia reaffirm its stand on this issue, and be it further

RESOLVED, that the Society's objection to the use of drugs by optometrists be conveyed to those legislators who may consider sponsoring legislation in this area of health care.

The report, as a whole, of Reference Committee No. 3 was then adopted as amended.

At this point the House gave its consent for Dr. Leroy Smith to introduce a memorial resolution on Dr. Charles M. Zacharias. The resolution was adopted unanimously as follows:

WHEREAS, Dr. Charles M. Zacharias, President of the Richmond Academy of Medicine, passed away on Saturday, October 27, 1979, and

WHEREAS, Dr. Zacharias, a member of this House of Delegates, has long served his local and state societies with dedication and distinction, and

WHEREAS, his passing has taken from our midst a physician much loved and revered by all who knew him, and

WHEREAS, the physicians of Virginia, and particularly those in Richmond, have lost not only a friend and leader, but also a courageous champion of medicine's most cherished traditions, now therefore be it

RESOLVED, that the House of Delegates of The Medical Society of Virginia, meeting in Hot Springs on November 3, 1979, express its deepest sympathy to Mrs. Zacharias and the family, and be it further

RESOLVED, that this expression of sorrow be spread upon the Minutes of this body and copies sent the family of Dr. Zacharias and the Richmond Academy of Medicine.

Dr. Wallace then called attention to the wonderful job done by the local Committee on Arrangements in connection with the Annual Meeting. He also complimented the staff of the Homestead for the part it played in making the 1979 meeting one of the very best in the Society's history.

The report of the Nominating Committee was then presented by Dr. William Liddle.

Dr. Percy Wootton was elected unanimously to the office of President Elect.

Dr. H. C. Alexander, III was elected First Vice President; Dr. Harold L. Williams, Second Vice President; and Dr. James P. Harnsberger, Third Vice President.

Reelected as Speaker and Vice-Speaker were Dr. K. K. Wallace, Jr., and Dr. Richard L. Fields.

Elected to Council were the following: 1st District, Dr. William Stewart Burton; 3rd District, Dr. Charles M. Caravati, Jr. (reelected); 5th District, Dr. Glenn R. Updike, Jr.; 7th District, Dr. Robert C. Green, Jr. (reelected); 9th District, Dr. John T. Hulvey.

Named as Vice-Councilors were: 1st District, Dr. William H. Sipe; 2nd District, Dr. Frederick K. McCune (reelected); 3rd District, Dr. James A. Shield, Jr.; 4th District, Dr. James V. Scutero; 5th District, Dr. Lawrence V. Marshall; 6th District, Dr. John M. Stirewalt (reelected); 7th District, Dr. George E. Broman (reelected); 8th District, Dr. Nicholas G. Colletti (reelected); 9th District, Dr. Robert V. Gailliot; 10th District, Dr. Gerald J. Fisher (reelected).

Robert I. Howard was reelected Executive Vice President.

Nominations for the State Board of Medicine were then received from the Sixth District. The following nominees were approved and the names will be submitted to the Governor for his consideration: Dr. Carroll H. Lipphard, Dr. Joseph H. Callicott, Jr., and Dr. C. S. King.

The House next received nominations for two delegates and two alternates to the American Medical Association. The terms of Dr. Puzak and Dr. Stark, delegates, and Dr. Weyl and Dr. Brown, alternates, expire as of December 31, 1979.

Dr. Puzak and Dr. Stark were then reelected unanimously as delegates, and Dr. Weyl and Dr. Brown were reelected as alternate delegates.

Dr. Willette LeHew then received consent of the House to introduce a special resolution honoring Dr. Charles E. Davis, Jr. The resolution was unanimously adopted as follows:

WHEREAS, our member, Dr. Charles E. Davis, Jr., has faithfully served the Norfolk Academy of Medicine since his acceptance to membership on June 7, 1948, and

WHEREAS, when called upon by this Academy to serve in the capacity of President of The Medical Society of Virginia, he graciously agreed to undertake this assignment on behalf of his fellow members, and

WHEREAS, he has served as President of The Medical Society of Virginia for this past year with skill and competence, bringing to the Society another particularly productive and effective year, now therefore he it

RESOLVED, that the members of the Norfolk Academy of Medicine would like to express their pride, warmth, and gratitude to Dr. Charles E. Davis, Jr., our member, who has served us well, and represented this Academy and all physicians throughout the Sate of Virginia during his noteworthy term of office.

The House denied a request that a special resolution be introduced which would prohibit smoking during scientific sessions.

There being no further business, the meeting was adjourned, sine die.

Robert I. Howard, Secretary

APPROVED:
K. K. Wallace, Jr., M.D., Speaker

Minutes of Council

A meeting of the Council of The Medical Society of Virginia was held in Hot Springs at the Homestead on Thursday, November 1, 1979.

Members Present: Dr. Charles E. Davis, Jr.; Dr. George M. Nipe, Dr. William J. Hagood, Jr.; Dr. Percy Wootton; Dr. K. K. Wallace, Jr.; Dr. Harold L. Williams; Dr. Gordon G. Birdsong; Dr. Girard V. Thompson, Sr.; Dr. William W. S. Butler, III; Dr. Robert C. Green, Jr.; Dr. Harry C. Kuykendall and Dr. C. Barrie Cook.

Others Present: Dr. H. C. Alexander, III, 2nd Vice President; Dr. Richard L. Fields, Vice-Speaker; Dr. James B. Kenley, Commissioner, State Department of Health; Dr. William S. Burton, Dr. William R. Watkins, Dr. George E. Broman, Dr. Nicholas G. Colletti, Dr. James L. Patterson, Jr. and Dr. Gerald J. Fisher, Vice-Councilors; Dr. Michael A. Puzak, Dr. Carl E. Stark, Dr. F. Ashton Carmines and Dr. John A. Martin, AMA Delegates; Dr. W. Leonard Weyl, Dr. Raymond S. Brown and Dr. Arthur A. Kirk, Alternate AMA Delegates.

Following the invocation by Dr. Carmines, Dr. Davis introduced Dr. Lowell Steen, Chairman of the Board of Trustees, American Medical Association.

Report of Finance Committee and Proposed Budget for 1979-80

Dr. Michael Puzak, Chairman of the Finance Committee, reported that the Society had enjoyed an excellent year from a financial point of view. He indicated that the finances of the Society had never been in better condition and that we had operated well within our budget during the fiscal year. He was especially pleased that the budget to be presented was balanced and that both income and reserves might well reach all-time highs.

During an item-by-item breakdown, a motion was made by Dr. Girard Thompson that the contribution to the VaMPAC Educational Fund be increased from $25,900 to $30,000. The motion was seconded and carried.

During consideration of that portion of the budget concerned with Vanguard, Dr. Puzak pointed out that $48,000 in Committee Contingency Funds had been eliminated. He stressed, however, that should specific needs arise during the year, the Vanguard Committee should not hesitate to come before Council and make its request known.

Dr. Nipe then moved that Council approve the

budget as amended and recommend its adoption to the House of Delegates. His motion was seconded and carried.

Dr. Steen

Chairman of the AMA Board of Trustees discussed with Council matters of special interest. He announced that Dr. Weyl had just been appointed to the AMPAC Board of Directors.

Dr. Steen stated that although AMA membership was growing, it needed to increase at a faster rate. Actually, the Association needs 20,000 new members each year in order to successfully cope with ever increasing problems. Dr. Steen went on to say that if all eligible physicians in the nation were members of AMA, annual dues could be reduced by $68. He also stated that 60% of the total AMA budget is earmarked for educational activities, a fact which always comes as a surprise to most physicians.

Dr. Steen expressed the hope that AMA will soon become the one accrediting body in the nation where continuing medical education is concerned. Although the LCCME controversy continues, it is hoped and expected that the matter will soon be resolved to the satisfaction of all state societies directly involved with CME activities.

Dr. Hotchkiss supplemented Dr. Steen's remarks by pointing out that Virginia is lagging somewhat behind most other states where programs for residents are concerned. He stated that AMA has a great deal of material on such programs and urged The Medical Society of Virginia to obtain a copy for consideration and possibly some definitive action in the near future.

Rules Committee

Dr. Wallace reported that the same Rules of Procedure would very likely govern the conduct of business in the House of Delegates. The 30-day cutoff rule for resolutions is working very well and only one late resolution must be considered by the Rules Committee.

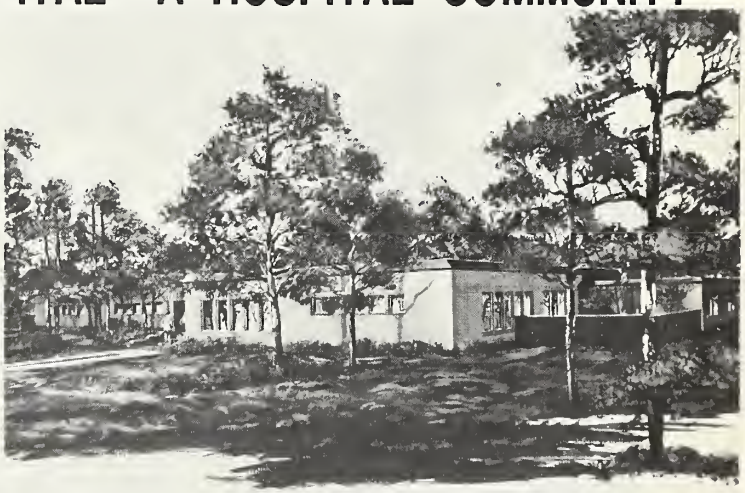
There being no further business, the meeting was adjourned.

Robert I. Howard, Secretary

APPROVED:
Charles E. Davis, Jr., MD, President

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Rock, Merced River, Autumn, Yosemite Valley c. 1962, by Ansel Adams. Reproduced by permission. This work appears in Mr. Adams' new book, Yosemite and the Range of Light (*Boston, New York Graphic Society, 1979*).

VIRGINIA MEDICAL

EDITORIAL

"These Great Mysteries": Dying, Death, the Hereafter

DYING is the final price exacted for living. All creatures, man not excepted, are joined in the universality and inevitability of dying and death. The Bible tells of only two who were not subject to death as we know it: Enoch, who walked with God and was not, for God took him; and Elijah, who, in a chariot of fire, was transported to heaven by a whirlwind. Nothing lives on. All dies. In this vein, Lewis Thomas writes[1]: "It is bad enough to think about our own dying, all four billion of us in just this lifetime, and more to come. The death of all the other living things, trillions of perfectly made insects, worms, fish, dolphins, asters, over and over again, is too much to take in."

Dying, death, the life hereafter—these great mysteries of life have always demanded and been accorded the attention due them. But for the most part, these subjects have been thought about and talked about in the abstract, objectively, impersonally, with little consideration of the implications of one's own dying and death or what may be beyond.

In recent years, however, there has been a remarkable surge of interest and personal concern on the part of physicians and laity alike. Hudson makes this point[2]: "What was so recently tabooed is now commonly discussed in settings ranging from church seminars to cocktail parties. Death and dying has captured the college scene; at last count 112 undergraduate courses on the subject had been identified (personal communication with the Euthenasia Educational Council), a phenomenon of instant academic expertise unmatched since professors discovered black studies in the late 1960s. Without actually counting, it appears there are now more conferences on dying each year than on human sexuality, and one must wonder if that is altogether healthy. The literary magazines are forced to review new books on death a pile at a time. At least three periodicals are devoted to the topic: *Omega*, the *Journal of Thanatology*, and the *Journal of Life Threatening Behavior.*"

This new interest is dominated by two divergent trends, one having to do with the mechanics, so to speak, of dying and death and the other with the process or substance of dying and death, including considerations of what may lie beyond. In the first category questions are raised as to where terminally ill patients should be cared for, with a discussion of the system of hostels for the dying which seems to be so successful in England; to what extent and what kinds of heroic measures are justifiably instituted; how expensive and/or limited treatment modalities and resources should be allocated; the ethical, moral and religious implications of euthenasia, or, even, of suicide; what should be accepted as the valid determinants of death when a fresh organ is urgently needed for transplant. These and many other similar questions can and do occupy large numbers of individuals, many hours of conference, and vast reams of printed and spoken words.

The second group deals with the more occult; that is, the process of dying and what lies beyond, based largely on the remembrances of those who have survived experiences of dying, and the perspicacity of those who observe and study these subjects. Lewis Thomas, in his inimitable way, gives a teleological interpretation[1]: "What about this dying? Is it really true that such a universal process, in a living system that in so many other respects can strike us dumb

with its harmony and beauty, can turn vicious at the end with all its creatures? Or have we got it wrong?

"I think we have, maybe. There are some odd things about human dying, anyway, that don't fit at all with the notion of agony at the end. People who almost die but don't, and then recover to describe the experience, never mention anguish or pain, or even despair; to the contrary, they recall a strange, unfamiliar feeling of tranquility and peace. The act of dying seems to be associated with some other event, perhaps pharmacologic, that transforms it into something quite different from what most of us are brought up to anticipate. We might be learning more about this, especially if we were to discover (as might be the case) that there is a similar event in the dying of all sentient creatures. It might be mediated by the release of peptides of the endorphin class, which could have the simultaneous effect of suppressing pain and switching on a level of consciousness previously unknown to most of us, or all of us. This is wishful guessing, of course, but you see what I'm getting at. Something is probably going on that we don't yet know about. Whatever it is, it seems to me a safe prediction that we will find it matching all the other things, balanced, harmonious and lovely, that we know about the earth. If this is true, we might then be encouraged to look at the place in a different way. In almost the same breath, this would change the way we must look to it."

Ian Stevenson at the University of Virginia is in the forefront of the scientists who are attempting to put on a firm scientific basis the study of individuals who have near-death experiences.[3] He also is asking the most searching question of all, whether we can learn something about survival after death from a meticulous study of those who seemingly have returned from death.

Stevenson's article, and others like it, brought back to my mind most forcibly an eerie experience I had many years ago when I was a junior in college. I have never forgotten it. Indeed, every detail has been indelibly fixed in my mind all of these years. In view of the current interest in this subject and the material appearing in the medical literature, I am emboldened to present this report. Here it is, a nostalgic look at college life as well as a medical case history.

At my alma mater in those days we still had formal dances. As I remember it, the girls were fresh and lovely in long evening gowns and the boys young and handsome in white ties and tails. There was lots of breaking to dance with as many of the girls as possible, and, perish the thought now, late dates consisting of wangling an automobile—cars were forbidden to students then—and driving slowly and aimlessly around or parking over by the stadium, often until dawn. We mostly talked. There was almost no hanky-panky, for this was long before the sex revolution.

Our final big dance weekend was Spring Frolics, misnamed that year, for the calendar and the weather were definitely not in agreement. It was a raw and rainy weekend, and the swirling mists and sleety drizzle seemed particularly forbidding as my date and I sat in a car talking in the early morning hours.

She was a little thing, very frail and wan, almost fragile in appearance, quite pretty and sweet, but so reserved and shy that she seemed at times to be miles away, caught up in her own deep thoughts. There was an ethereal, almost otherworldly quality about her. I knew that she had been terribly injured in a car wreck recently and was only now beginning to regain her strength. She was a blind date for me, and I was a little surprised that she had felt strong enough to come.

We talked about the usual things—school, friends, sports, but often she was quiet, sitting in a brooding silence. Then she began to talk about herself, slowly and hesitantly at first, then with a rush of words. Her voice was so small that it seemed almost as if she was talking only for herself to hear, and I had to strain to catch her words. This was her story.

One afternoon she was out driving with her grandmother, whom she adored, when a car coming towards them at a high speed crossed into her lane. The violent crash was mercifully blotted from her memory, and she remembered nothing about her miraculous survival or of being taken to the hospital. For weeks she lay unconscious, but there were infrequent periods of waxing and waning lucidity. During most of these periods she remembered that her mother sat quietly by her bed, often holding her hand, and her grandmother sat across the room on the window ledge. She also remembered having waves of pain that at times seemed to be more than she could bear.

One such time, and this was still vividly etched in her mind, she suddenly was aware that she was free of pain, that she felt perfectly well, and that a wonderful sensation of peace and warmth was spreading over her whole body. She looked up and was surprised to see her grandmother leave the window, and, for the first time, come to her bedside. Her grandmother reached out, took her hand, drew her to her, and said in a clear voice, "Dear, it is time now for you to come with me." Whereupon she rose from the bed, holding her grandmother's hand, and began walking across the hospital room, now strangely elongated, towards the window that was open in-

vitingly. Then she dimly remembered her mother, grabbing her hand, pulling her back fiercely, and crying, "No, no, you must stay here. Don't go, don't go!" She stood, unaware of time, between her mother and her grandmother. Then her grandmother seemed to disappear and she was once again in bed.

Many weeks later, when she was convalescing, she learned that her doctors at one point had given her up for dead and had told her mother that she was gone; and she also learned that her grandmother had been killed instantly in the crash.

The rain had almost stopped. Day was just breaking, and the first light of dawn etched gaunt trees against the somber sky, their limbs softened by the newly developing green leaves. We were both very quiet as I took her back to the boarding house where she was staying. I never saw her again. I heard later that she died instantly in an automobile accident while driving alone.

Now, on the subject of dying and death, we have just lost our old year, 1979. But here is 1980, a New Year, and a new decade ready for us to see what we can make of it. Dying and death are always with us, but so is an ongoing renewal.

W. T. THOMPSON, JR., MD

1. Thomas L: Notes of a Biology Watcher. Facts of Life. N Eng J Med 296:1462-1464, 1977
2. Hudson RP: Death, dying, and the zealous phase. Ann Int Med 88:696-702, 1978
3. Stevenson I: Near-death experiences. Relevance to the question of survival after death. JAMA 242:265-267, 1979

Historical Notes

Annals of Investigation: The Digestive Process

KARL Wilhelm Scheele, the distinguished Swedish chemist who discovered oxygen, also discovered the element chlorine. It appears, however, that he was unfamiliar with its non-oxygenated acid, hydrochloric acid, which plays such an important role in peptic digestion.

Johann Baptist Van Helmont (1577-1644) was the first investigator to show definitely that the digestive process was dependent upon the presence of hydrochloric acid. As a boy, Van Helmont played with sparrows. One of the birds bit him on the tongue. He was impressed by the intense acidity that appeared to prevail in the throat of the sparrow. Later, in his studies on peptic digestion, he attributed the excellent digestive capacity of birds to the presence of hydrochloric acid. This concept was contrary to the prevailing belief, namely that the digestive process was the result of body heat, but Van Helmont opposed this concept and produced crucial evidence to prove its invalidity. First, he showed that changes evoked by gastric juice on foods could not be produced by body heat alone. Second, he demonstrated that the stomach of the fish could digest food at the temperature of cold water. Also, he proved that neither vinegar nor lemon juice alone could digest food. And finally, he clinched his point of view by showing that the gastric juice of the ostrich could digest metallic iron.

Van Helmont was familiar with "spirit of salt" or hydrochloric acid and in his writings implied that this was the acid of gastric juice, which he called "hunger acid."

The classical experiments of William Beaumont conducted in the early part of the nineteenth century provided the centerpiece for our modern knowledge of the digestive process.

William Beaumont, the third child of Samuel Beaumont, descendant of the Earl of Warwick, was born in Lebanon, Connecticut, in 1785. As a child young Beaumont endured the rigors of the New England winters while performing many duties inherent to farm life. At the age of 22 he became fired with a restless ambition that was to motivate his entire life. He left the farm, traveled to the northern woods, and settled in St. Albans, Vermont, where he became the student apprentice of Dr. Benjamin Chandler.

Beaumont's knowledge of medicine was greatly increased by his service in the Vermont villages. In 1812 the Third Medical Society of the state of Vermont granted him a license to practice. This same year he joined the army as a surgeon's mate and enjoyed a brilliant and variegated record on land and sea. When the war with England closed, Beaumont left military life but joined the army again in 1820. He was ordered to report to General Macomb at Mackinac, Michigan. This frontier stronghold had been captured by the British but now housed four companies of American troops.

The discharge of a gun at Mackinac was not an occasion for alarm. Hunting bears and Indians was a

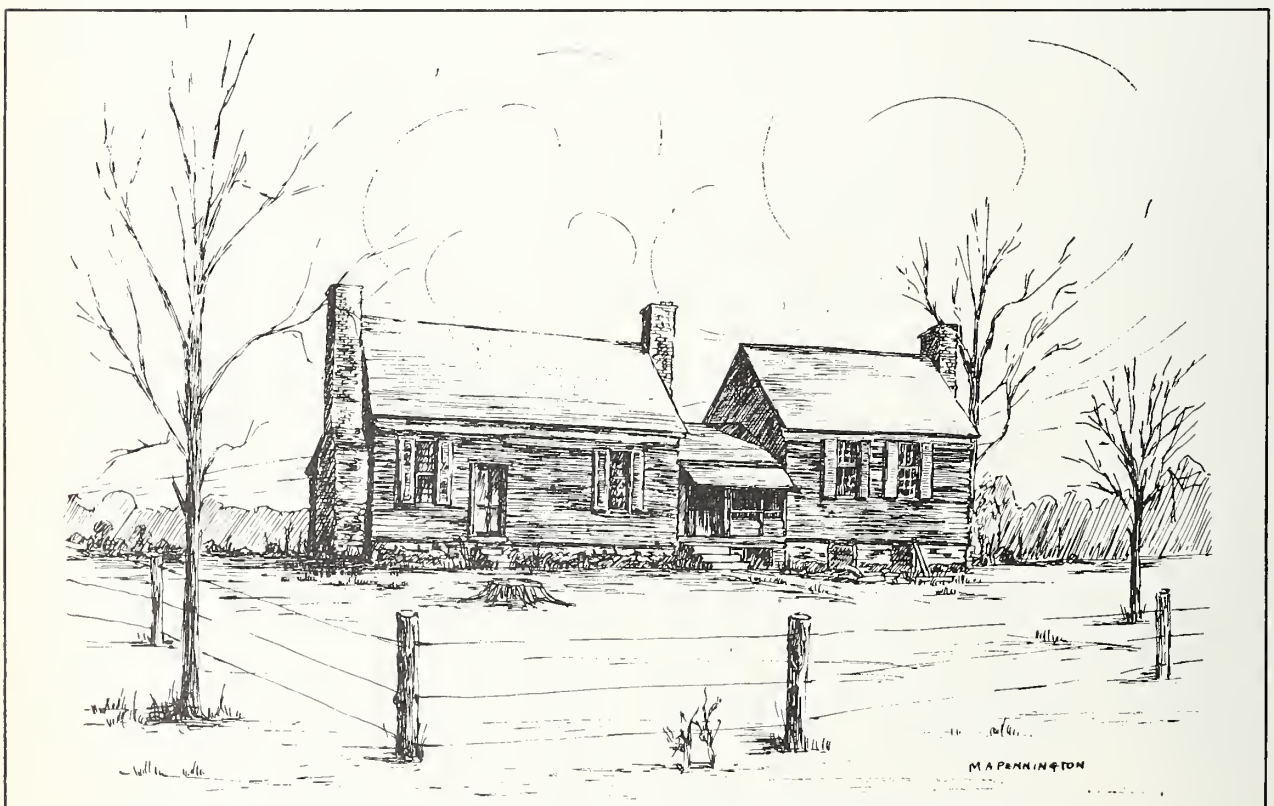
recognized occupation. But on June 6, 1822, a shot was inadvertently fired, the report of which reverberated around the world. Alexis St. Martin, a youth of 19 years, was shot while standing adjacent to the barrel of a shotgun. The whole discharge, wadding and all, entered his body in the upper abdominal region. He fell, his shirt was burning—bystanders diagnosed death. But destiny had carved a different course for St. Martin. Beaumont was called; in 20 minutes he was at the side of the moribund youth. His surgery was effective, and his tonic of muriatic acid and wine was alleged to confer strength upon the lad. St. Martin recovered and after the cicarization of the wound he was left with a gastric fistula.

It was this unique test subject that enabled Beaumont to study the fundamentals of the peptic digestion process. Beaumont, away from any laboratory of physiology an army surgeon on the frontier of civilization, adequately described the digestion of protein in the stomach. St. Martin's gastric juice, secreted at Mackinac was sent to Franklin Bache, grandson of Benjamin Franklin in Philadelphia, it reached the laboratory of the great Sweedish chemist Berzelius in Stockholm, and Professor Dunglison at the University of Virginia determined in it the presence of hydrochloric acid.

Beaumont's discovery immortalized him in the field of medicine. It brought him many honors and accolades. But the opportunity to continue his experiments was hampered by the lackadaisical character of St. Martin and was terminated when the army transferred Beaumont to St. Louis.

The transfer to St. Louis was not without its rewards. 1st Lieut. Robert E. Lee, US Army Engineer Corps, was ordered to St. Louis to work on the channel of the Mississippi River. Lee and his family spent a year with the Beaumonts in the house of Governor William Clarke of Lewis and Clark expedition fame. Lee's fame was on its ascendency, and Beaumont's high-water mark of fame had passed. The friendship that was begun here between the coming brilliant strategist and the enterprising, painstaking physician endured for 14 years, until the time of Beaumont's death. In the correspondence that was carried on between these two outstanding men one observes the calmness and serenity of Lee and the dashing impetuosity of William Beaumont.

JOHN C. KRANTZ, JR., PHD



"DIXIE" (1741), BUCKINGHAM COUNTY, VIRGINIA. BY M. A. PENNINGTON, MD.

VIRGINIA MEDICAL OBITUARY

Robert L. Waddell, MD

Dr. Robert L. Waddell, who was to have received his 50-Year Club certificate at The Medical Society of Virginia's 1979 annual meeting, died October 24 in Baptist Hospital, Winston-Salem, North Carolina, at the age of 82. A longtime general practitioner and surgeon in Galax, Virginia, Dr. Waddell had lived for the past several years in Sparta, North Carolina.

Born and reared in Scottsville, North Carolina, Dr. Waddell was educated at Wake Forest University in Winston-Salem. He practiced medicine in the Carolinas before going in 1945 to Galax, where he not only conducted a busy practice but reopened a defunct hospital, known under his leadership as the Waddell Hospital; later he moved the facility into larger quarters, continuing to operate it until, in 1973, the Twin County Hospital was built.

In addition to The Medical Society of Virginia and the American Medical Association, Dr. Waddell's professional memberships included the Southeastern Surgical Congress and the American Society of Abdominal Surgeons.

Two sons of Dr. Waddell are physicians: Dr. Robert W. Waddell, Virginia Beach, and Dr. William B. Waddell, Galax.

William S. Hooten, MD

Dr. William S. Hooten, Lynchburg internist for the past 32 years, died November 8 at Lynchburg General Hospital. He was 71 years old.

A native of Bronwood, Georgia, Dr. Hooten received his BA degree from Lynchburg College and his MD degree from Duke University School of Medicine. He trained at Grady Memorial Hospital, Atlanta, and Southwestern Medical School, Dallas, before entering military service for World War II, in which he attained the rank of captain in the Army and was chief of medical service at Fort Dix, New Jersey, for a year. After discharge, he was an instructor in the department of medicine at Emory University, Atlanta, returning to Lynchburg in 1947 to establish private practice.

Dr. Hooten was a member of the medical staffs of both Virginia Baptist and Lynchburg General Hospitals. He had belonged to The Medical Society of Virginia for 31 years and was a member also of the Lynchburg Academy of Medicine and the American Medical Association.

James P. Jones, Jr., MD

Dr. James Philip Jones, Jr., Richmond, died November 18 in a Richmond hospital at the age of 79. On his retirement in 1973 he had been a general practitioner in Richmond for 47 years.

Dr. Jones was graduated from Randolph-Macon College and the Medical College of Virginia. In 1976 he received The Medical Society of Virginia's 50-Year Club certificate, and he belonged also to the Richmond Academy of Medicine and the American Medical Association.

Acors W. Thompson, MD

Dr. Acors W. Thompson, Falls Church, died November 7 at Anne Arundel General Hospital in Annapolis following a heart attack. He was 58 years old.

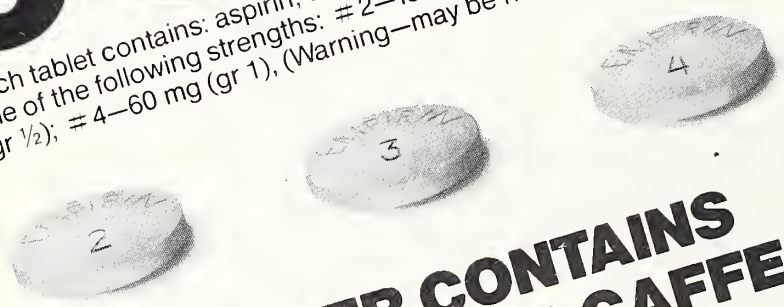
Dr. Thompson was born in Washington, DC. He earned his bachelor's and medical degrees at the University of Virginia and served his residency at St. Louis Hospital, St. Louis. In 1948 he entered the Army Medical Corps and was assigned to Walter Reed Army Hospital, Washington. During the Korean conflict he commanded a medical battalion there and was awarded the Bronze Star with Oak Leaf Cluster. He opened his private practice in Northern Virginia in 1954, specializing in cardiology and internal medicine, and also became an assistant clinical professor of medicine at Georgetown University.

He had belonged to The Medical Society of Virginia for 25 years and was a member also of the Arlington County Medical Society, the American College of Cardiology, the American College of Physicians, and the American College of Sports Medicine.

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WHO'S WHO IN VIRGINIA MEDICINE

"It shows a commitment to the creative spirit," is the way **Dr. Charles P. Cardwell III,** *Richmond,* describes the unusual use of original art throughout the new Richmond Metropolitan Hospital, according to a feature story in the *Richmond Times-Dispatch.* Dr. Cardwell, anesthesiologist and secretary-treasurer of the hospital's board of directors, worked with a Richmond art gallery owner to select 180 paintings, lithographs, silk screens, and limited-edition prints, most of them by Virginia artists, to give the boldly designed hospital an innovative interior. Total cost of all this eye appeal: $15,000, or about a quarter of the cost of the hospital's draperies.

The works are disposed in patient rooms, waiting rooms, and on walls facing nurses' stations. The most striking work, "Cade with Car", enlivens the hospital's lobby, as shown in the photograph on this page; it is a larger-than-life acrylic by Bernard Martin, professor at Virginia Commonwealth University, whose campus is adjacent to Richmond Metropolitan Hospital in downtown Richmond.

Dr. I. Kelman Cohen, *Richmond,* won first prize in the senior/basic science category of a recent scholarship essay contest conducted by the Educational Foundation of the American Society of Plastic and Reconstructive Surgeons. Title of Dr. Cohen's winning manuscript was "Macrophage Modulation of Fibroblast DNA Synthesis and Chemotaxis". He received the award at opening ceremonies of the Society's annual session in Toronto. Dr. Cohen is chairman of the division of plastic surgery at the Medical College of Virginia.

Dr. Arthur A. Kirk, *Portsmouth,* and his wife were presented with the James Smithson Society Medal of the Smithsonian Institute in recent ceremonies at the Institute. The award to Dr. and Mrs. Kirk recognized their gift to the National Museum of Natural History of a splendid 300.6-carat blue topaz. Dr. Kirk is a connoisseur and collector of gemstones, and has trained himself in the professional techniques of cutting and polishing gemstones.

New president of the Virginia Gastroenterological Society is **Dr. Benjamin B. Weisiger III,** *Richmond,* who was elected at the society's meeting late last year. **Dr. Joseph W. Longacher, Jr.,** continues as the group's secretary and **Dr. William W. Regan** as treasurer.

At their annual assembly in Las Vegas late last year, members of the Southern Medical Association elected **Dr. M. Pinson Neal, Jr.,** *Richmond,* to the chairmanship of the Association's Council. Dr. Neal previously was vice-chairman of the Council and has held, since 1963, increasingly influential offices in the Association. He is a professor of radiology at the Medical College of Virginia.

The Geriatric Medicine Academic Award was presented for the first time recently by the National Institute on Aging to seven physicians at medical schools over the country, and one of them was **Dr. Richard W. Lindsay,** *Charlottesville.* Dr. Lindsay heads the division of geriatrics at the University of Virginia. The case award allows for the development of undergraduate medical school curricula, continuing medical education courses in geriatrics and research opportunities for geriatric residents.

Thank You!

The Editors are immensely grateful to these physicians who kindly performed special tasks of review and consultation during the year 1979:

Khalid J. Awan, MD
George J. Carroll, MD
W. F. Falls, Jr., MD
John T. Farrar, MD
Charles L. Johnstone, Jr., MD
Thomas S. Moore, MD



Richmond Times-Dispatch

Hospitalized Cade, admired by Dr. Cardwell (left rear) and gallery owner.

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PRIMARY CARE MDs—New federally-subsidized rural group practice in beautiful Chatham, Virginia, seeks two full-time, board-eligible or board-certified primary care MDs for July 1980. Approved NHSC site but non-NHSC candidates eligible; service area 20,000; on-site practice administrator; 18 miles from urban center of 60,000 (Danville VA) with 459-bed hospital; excellent salary plus fringe; excellent prospects for traditional private practice at end of 3-year grant period; mountains/lakes close by. Call Memorial Hospital, Danville VA 24541, (804) 799-4441.

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"The greatest hope to make the Colony florrish that ever yet happened."

OUR early settlers, both at Jamestown and Plymouth Rock, started out in our country in a communal, socialistic system. At both colonies all worked for the common good and put all their produce into a common larder, from which they could draw when there was need. It is very probable that this is the only way the colonies could have been started.

But communal, socialistic living does not bring out the maximum incentive in human workers, and it was not until this fact was recognized and acted upon by the persons in charge that the colonies began to prosper. Unfortunately, the Virginia colony was slow to recognize the problem and did not switch from socialism to private enterprise until about 1619.

Here is what John Rolfe of the Virginia colony had to say after the change was made[1]:

All the ancient planters being sett free have chosen places for their dividendes according to the commission, which giveth all greate content, for now knowing their owne landes, they strive and are prepared to build houses & to cleere their groundes ready to plant, which giveth (them) greate incouragement and the greatest hope to make the Colony florrish that ever yet happened to them.

The Plymouth Rock colony heard, possibly, of the improvement in the conditions and the amount of food available under the private enterprise system, so it, too, switched to private enterprise.

Here is what Governor Bradford said when the change had been made[2]:

They began to thinke how they might raise as much corne as they could, and obtaine a beter crope than they had done, that they might not still thus languish in miserie. At length, after much debate of things, the Gov. (with the advise of the cheefest amongst them) gave way that they chould set corne every man for his owne perticuler, and in that regard trust to them selves; in all other things to goe on in the generall way as before. And so assigned to every family a parcell of land, according to the proportion of their number for that end, only for present use (but made no devission for inheritance), and ranged all boys and youth under some familie. This had very good success; for it made all hands very industrious, so as much more corne was planted then other waise would have bene by any means the Gov or any other could use, and saved him a great deall of trouble, and gave farr better contente. The women now wente willingly into the field, and tooke their litle-ons with them to set corne, which before would aledg weaknes, and inabilitie; whom to have compelled would have bene thought great tiranie and oppression.

The experience that was had in the commone course and condition, tried sundrie years, and that amongst godly and sober men, may well evince the vanitie of that conceite of Platos and other ancients, applauded by some of later times;—that the taking away of propertie, and bringing in communitie into a comone wealth, would make them happy and florishing; as if they were wiser then God. For this communitie (so farr as it was) was found to breed much confusion and discontent, and retard much imployment that would have been in their benefite and comforte. For the yong-men

that were most able and fitte for labour and service did repine that they should spend their time and streingth to worke for other mens wives and children, with out any recompense.

The strong, or man of parts, had no more in devission of victails and cloaths, then he that was weake and not able to doe a quarter the other could; this was thought injustice. The aged and graver men to be ranked and equalised in labours, and victails, cloaths, etc., with the meaner and younger sorte, thought it some indignite and disrespect unto them. And for mens wives to be commanded to doe servise for other men, as dresing their meate, washing their cloaths, etc., they deemed it a kind of slaverie, neither could many husbands well brooke it....."

In 300 years, the magic of freedom and free enterprise made strides in our country unequaled in history.

Unfortunately, our own government has brought us back to a communal-socialistic way of life, gradually and almost unnoticed by many, by leveling taxation, bureaucracy, excessive regulation and welfare.

Somehow we must find a way to again be free—free to sink or swim, free to be masters of our own fates, free to suffer the consequences of our mistakes and the benefits of our right actions.

Raymond S. Brown, MD

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Theodorick Bland, Jr.: Virginia Physician, Cuirassier

E. Randolph Trice, MD, *Richmond Virginia*



Born in Prince George County and educated abroad, Theodorick Bland practiced medicine in Petersburg, raised the first troop of Virginia cavalry, and served in the Continental Congress, the Virginia legislature, and the first US Congress.

THEODORICK Bland, Jr. was born at "Cawson's," seat of the Bland family in Prince George County, on March 21, 1741. Cawson's occupied a commanding promontory overlooking the confluence of the Appomattox and the James Rivers. Nothing remains of the ancient mansion, for it was destroyed by fire in 1820, and John Randolph Hospital, in the city of Hopewell, now occupies the site. The view is little changed and remains impressive. From the rear of the hospital one can still see Bermuda Hundred, beyond the wide mouth of the Appomattox; Turkey Island, surrounded by the James; and historic Shirley Plantation, across the James.

At age 11 young Bland was sent to England to study at Wakefield in Yorkshire. In 1759 he undertook the study of medicine, first at Liverpool Infirmary and two years later at Edinburgh, where he joined the Virginia Club. With his good friend, Arthur Lee, and others, he collaborated in the petition to upgrade medical practice at home; it recommended the licensure of physicians.

After graduation in 1763 he took the customary postgraduate tours of Leyden and Paris. He returned to Blandford in 1765 and established his practice in Petersburg. Near Petersburg, on a site now in the city of Hopewell, he acquired "Kippax", renamed it "Farmingdale" and made it his home. It is still there, unhabited and in somewhat deteriorated condition, though its four chimneys are intact.

Blanton says of Bland that "he possessed everything to make a suc-

Address correspondence to Dr. Trice at the McGuire Clinic Building, 7702 Parham Road, Richmond, VA 23229.

The portrait reproduced on this page is a likeness of Dr. Theodorick Bland, Jr., as it appears in *St. Memins' Collection of Portraits*, published in 1862. Courtesy of the Virginia State Library.

cess—social background, wealth, foreign travel and a degree from Europe's leading university". Campbell observed that "numerous medical notes, essays, theses in Latin and in English attest the diligence with which he devoted himself of his profession". He wrote a few poems, several philippics against Lord Dunmore and the English, and was chairman of the Virginia Society in Williamsburg, a philosophical society that included Dr. James McClurg, Dabney Carr, Mann Page, Jr., and other notables.

Bland was one of 24 young men who in 1775 raided the Governor's Palace in Williamsburg. The result was to deny Lord Dunmore 230 flint-locks and 301 swords for use against the colonists.

Pictures of Bland reveal a strikingly handsome man. He was, according to Campbell "tall and of noble countenance. His manners were marked by ease, dignity and well-bred repose."

In June 1776, Bland raised, at his own expense, the first troop of cavalry in Virginia. As soon as a regiment had been formed, he was made a lieutenant colonel and joined Washington in New York six months later, and in September 1777, distinguished himself at the Battle of Brandywine. Brandywine was a British victory, but that it was not a complete disaster for the Americans was due in part, it is said, to Bland's reconnaissance. Lord Howe's brilliant flanking movement was discovered by Bland's dragoons just in time to save the Continental Army from complete annihilation. A division of Virginians under the command of Gen. Adam Stephen was among the troops saved by Bland's exploit.

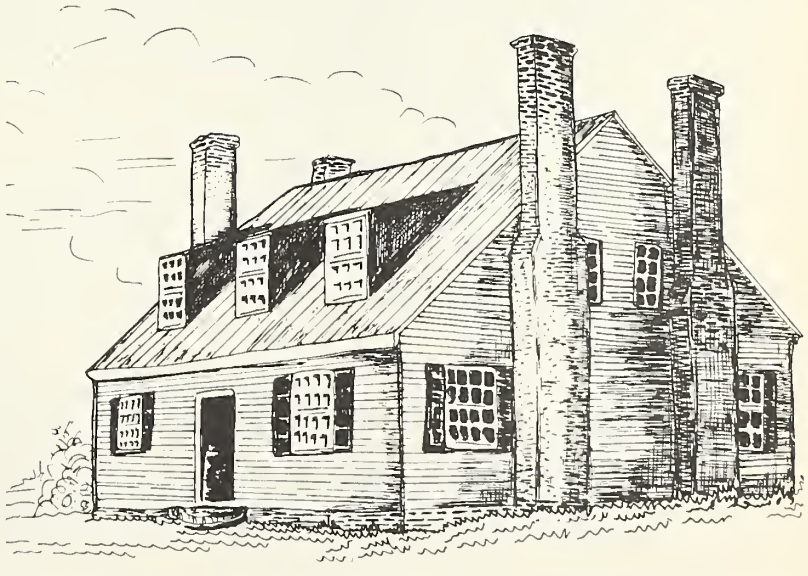
After the crucial battle of Saratoga, a convention was signed; the British and Hessian troops captured there were known henceforth as "convention troops". A site near Charlottesville was designated by Congress to house the convention troops. The site was called Albemarle Barracks and was located where the present-day Barracks Road crosses Ivy Creek. In the winter of 1778-79, Bland was assigned to escort the convention troops from Cambridge, Massachusetts, to the barracks. They covered the 623 miles in two months. Colonel Bland retained the command of the barracks until August 1779, when he resigned from the Army.

As a soldier Bland received mixed reviews. Gen. Henry "Light Horse Harry" Lee asserted that Bland, though noble, honorable and amiable "was never intended for the department of military intelligence." Thomas Anburey, a British officer, was amused by his "pomposity and the great importance he assumes". Nevertheless, Bland enjoyed the confidence of General Washington and was respected by those he commanded.

In 1780 Bland was elected to the Continental Congress and became a member of the Medical Committee. He served subsequently in the Virginia legislature and then in the first United States Congress and died in New York on June 1, 1790 while serving in the Congress. He was, according to Campbell, "estimable for his private worth and respectable for his public services".

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"Kippax", the Prince George County home of Theodorick Bland, Jr., is still standing in what is now Hopewell, Virginia. There is a legend it was built by Robert Bolling for his wife, Jane Rolfe, granddaughter of Pocohontas, but historians dispute this provenance. Drawing by E. Randolph Trice, MD.

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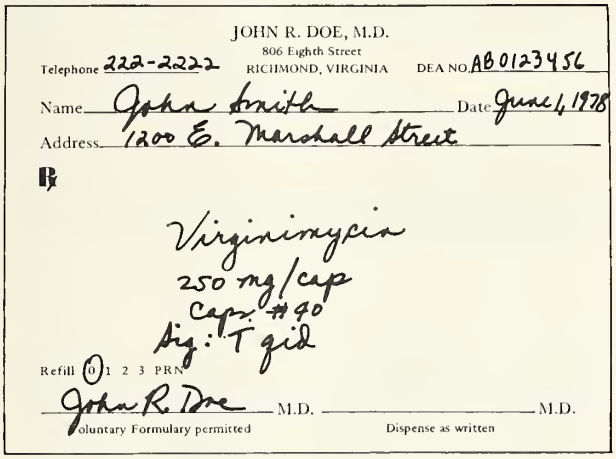


MEDICINE AND THE LAW

Prescription Forms

The State Attorney General's office has advised the Virginia Voluntary Formulary Advisory Board that any physician who is not using a prescription form with two signature lines, as required by Section 54-524.109:17 of the Virginia Code, can be adjudged guilty of a Class I misdemeanor. The Code section provides that all prescriptions written on a printed form must provide a choice of two lines for the prescriber's signature. These two lines provide either for signature permitting voluntary formulary by the pharmacist or for signature requiring that the prescription be dispensed as written. A sample blank with these two options appeared in VIRGINIA MEDICAL at the time the Virginia Voluntary Formulary became law and is reproduced here again.

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Medical Malpractice Expert Witnesses

There have been several recent developments regarding the qualification of an expert witness in a medical malpractice case. During its 1979 session the General Assembly made several refinements in the statute that defines the standard of care to be applied in determining the question of liability. The statute continues to provide that a statewide standard of care will be applied, unless one of the parties can overcome the presumption in favor of a statewide standard and establish that a local standard is more appropriate. But the 1979 amendments make clear that any dispute as to whether a statewide or local standard is appropriate shall be resolved by the jury. Further, the amendments make clear that an expert witness, otherwise qualified, who is familiar with the statewide standard, shall not have his testimony excluded solely because he is not familiar with the local standard. It is not entirely clear how this last change will be applied in a situation where a jury determines that a local standard is appropriate. Presumably, the jury would have to be instructed to ignore the testimony of the expert.

Two recent Virginia Supreme Court decisions shed additional light on the test for determining the admissibility of the testimony of a medical expert. In *Ives v Redford, 252 S.E. 2d 315 (1979)*, the Virginia Court held that a surgical pathologist and a surgeon were not disqualified from testifying as to the applicable standard of care of a gynecologist solely on the grounds that they were not gynecologists. In refusing to hold that the standard of care applicable to one practicing a specialty can only be determined by another member of the same specialty, the Court emphasized that the scope of the witness' knowledge, and not the artificial classification by title, should govern the threshold question of admissibility. The Court did state that a difference in the specialty of the expert and that of the defendant could affect the weight to be given the expert's testimony. The Court further noted that if the standards of the two specialties involved are the same, the witness should be qualified. If the standards are different, the expert should be qualified if he demonstrates expert knowledge of the standards of the defendant's specialty and of what conduct conforms or fails to conform to these latter standards. "In both situations, the defendant is assured that his conduct will be measured, not by some differing standards of another specialty, but by those of his own".

In a decision handed down on the same day, the Virginia Court concluded that an orthopedic surgeon was not qualified as an expert in a malpractice claim against a chiropractor. Noting that the defendant was required to use that degree of skill and care which would have been exercised by a reasonably prudent chiropractor, the Court held that the plaintiff's expert witness, while qualified in his own field, did not profess to know the standards of skill and care exercised by chiropractic practitioners. (*Maxwell v McCaffrey, 252 S.E.2d 342 (1979).*)

Finally, in *Noll v Rahal, 250 S.E.2d 741 (1979)*, the Court refused to reverse a trial court's decision that the plaintiff's expert was not qualified because he was

not familiar with the applicable standard of care. The decision highlights the limited role of an appellate court in reviewing a trial court's decision concerning an expert witness. The Court concluded that the question as to whether or not a witness is qualified as an expert must be left largely to the sound discretion of the trial court. When the trial court has refused to qualify an expert, the appellate court will reverse that decision only when it "appears clearly" that the expert witness was qualified.

Unsolicited Laboratory Test Results

A number of members of the Medical Society of Virginia have inquired as to a physician's legal obligation, if any, when he receives unsolicited laboratory test results in the mail. In 1977, the General Assembly adopted a statute which provides that laboratory test results that were not conducted by or under the supervision of a physician or at the request or with the written authorization of a physician must be delivered to the patient, rather than to the patient's physician. Further, the law provides that a physician is immune from liability for any failure to take action on any report of the results of any such test unless the report is provided to the physician by the patient or by the State Department of Health. The law does not apply to any test conducted under the auspices of the State Department of Health.

The foregoing was prepared by Allen C. Goolsby III, legal counsel for The Medical Society of Virginia.

NEW MEMBERS

Albemarle County Medical Society

Michael Lee Coates, MD, Family Practice, Box 414, University of Virginia Medical Center, Charlottesville VA 22901

Kerr Lachlan White, MD, Internal Medicine, Rt. #1, Box 97-A, Standardsville VA 22973

Larry A. Widner, MD, Radiology, 2637-C Barracks Rd., Charlottesville VA 22901

Arlington County Medical Society

Yuill Black, MD, Allergy, 8206 Leesburg Pike, Vienna VA 22180

Hampton Medical Society

James Paton Robinson, MD, Psychiatry, 81 Breakwater, Hampton VA 23669

Newport News Medical Society

Georgeanne Hoegerman, MD, Pediatrics, 12420 Warwick Blvd., B-3, Newport News VA 23606

Norfolk Academy of Medicine

Jon Lee Crockford, MD, Obstetrics/Gynecology, 903 Medical Tower, Norfolk VA 23507

Percy N. Gajaweera, MD, Psychiatry, 3356 Middle Plantation Quay, Virginia Beach VA 23452

Northern Virginia Medical Society

Nicholas H. Shea, MD, Emergency Medicine, Lake Shore Hospital, PO Box 1893, Lake City, Fl 32055

Norman J. Smith, MD, Therapeutic Radiology, 521 S. Washington Street, Winchester VA 22601

Portsmouth Academy of Medicine

Jeffrey Stephen Wolf, MD, Colon & Rectal Surgery, 620 London Blvd., Portsmouth VA 23704

Richmond Academy of Medicine

Shane J. Kraus, MD, General Practice, Rt. 2, Box 189-B, Sandston VA 23150

Phillip C. Liverman, MD, Internal Medicine/Nephrology, 7702 Parham Rd., Richmond VA 23229

Jack Arnold Morgenstern, MD, Psychiatry, 1500 Westbrook Ave., Richmond VA 23227

Dale Everett Slagel, MD, Internal Medicine, 4869 Finlay St., Richmond VA 23231

Roanoke Academy of Medicine

William Joseph Kagey, MD, Pediatrics, 1803 Braeburn Dr., SW, Salem VA 24153

Southwestern Virginia Medical Society

Bharat R. Patel, MD, Diagnostic Radiology, PO Box 3636, Radford VA 24141

Tri-County Medical Society

Dixon M. Rollins, MD, Diagnostic Radiology, 112 S. Broad St., Suffolk VA 23434

MEETINGS ABOUT MEDICINE

**1980 Annual Meeting,
The Medical Society of Virginia:
November 6-9, Williamsburg**

February 29-March 1
Annual Meeting/Scientific Program, Virginia Chapter, American Academy of Pediatrics, *Williamsburg* Conference Center. Dr. Ann Johanson, Box 386, University of Virginia Medical Center, Charlottesville VA 22908.

March 2-6
Nuclear Medicine and Diagnostic Imaging (Dept. of CME, Medical College of Virginia), *Williamsburg.* 17 3/4 hrs. Alton R. Sharpe, Jr., MD, Box 1, MCV Station, Richmond VA 23298, (804) 786-6828.

March 2-9
Oncology in General Practice, an Educational Cruise (Comprehensive Cancer Center of the State of Florida/ University of Miami Medical School), *Caribbean cruise.* 38½ hrs. Peter W. A. Monsell, MD, Center House PH-E, 1400 N.W. 10th Ave., Miami FL 33136, (305) 547-6103.

March 5-7
Current Practices in the Rehabilitation of the Spinal Cord Injured Person (Virginia Regional Spinal Cord Injury System, Dept. of Rehabilitation Services/McGuire VA Medical Center/Dept. of CME, Medical College of Virginia), Hyatt House, *Richmond.* 13 hrs. Kathy Johnson, Box 48, MCV Station, Richmond VA 23298, (804) 786-0494).

March 5-8
Internal Medicine 1980, Postgraduate (University of North Carolina), *Chapel Hill.* Office of CME, 319 MacNider Bldg., 202H, Chapel Hill NC 27514.

March 6-8
International Congress on Colonoscopy and Diseases of the Large Bowel, Americana Hotel, *Bal Harbor, Florida.* John P. Christie, MD, 7330 S.E. 62nd Place, Suite 220, South Miami Fl 33143.

March 7
20th Annual Law Institute on Hospitals and Medicine (Medical College of Virginia), Hyatt House, *Richmond.* Jerry L. Norville, Box 203, MCV Station, Richmond VA 23298, (804) 786-9466.

March 9-13
American College of Cardiology, *Houston, Texas.* W. D. Nelligan, 9111 Old Georgetown Rd., Bethesda MD 20014.

March 14-15
Selected Topics in Pediatrics (Eastern Virginia Medical School/Children's Hospital of the King's Daughters), *Norfolk.* Jean E. Shelton, MD, 800 W. Olney Rd., Norfolk VA 23507, (804) 628-3795.

March 21-23
Clinical Diagnosis and Management of Uveitis (Medical College of Virginia), Cascades Meeting Center, *Williamsburg.* 14¼ hrs. Cat. 1. Dept. CME, Box 48, MCV Station, Richmond VA 23298.

March 21-23
Neurology for the Practicing Physician (Depts. of Neurology/CME, University of Virginia), *Charlottesville.* 16 hrs. Cat. I. Fee, $120. Office of CME, Box 368, UVa Medical Center, Charlottesville VA 22908, (804) 924-5318.

April 2
Annual Clinical Conference of the Louise Obici Memorial Hospital, *Suffolk* Shrine Club. George J. Carroll, MD, PO Box 1100, Suffolk VA 23434.

April 9-11
Current Concepts of Clinical Infectious Diseases (University of Virginia and American College of Physicians), *Charlottesville.* Edward W. Hook, MD, University of Virginia School of Medicine, Charlottesville VA 22908.

April 11-12
Immunology and Immune Complexes: the 33rd Annual Stoneburner Lecture (Medical College of Virginia), *Richmond.* Kathy E. Johnson, Dept. CME, Box 48, MCV Station, Richmond VA 23298, (804) 786-0494.

April 11-13
Coronary Disease, Exercise Testing and Cardiac Rehabilitation (International Medical Education Corporation), *Williamsburg.* 13 hrs. Cat. 1. Fee, $215. IMEC, Dept. 12, 64 Inverness Dr. East, Englewood CO 80112, (800) 525-8646.

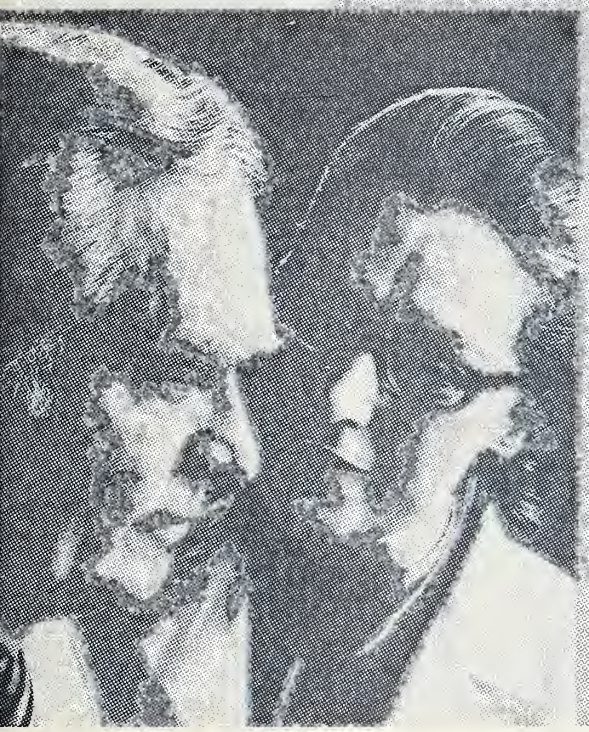
Meetings continued page 98.



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Contraindications: Patients with known hypersensitivity to the drug.

Warnings: Warn patients that mental and/or physical abilities required for tasks such as driving or operating machinery may be impaired, as may be mental alertness in children, and that concomitant use with alcohol or CNS depressants may have an additive effect. Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported.

Usage in Pregnancy: **Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

Precautions: In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (*e.g.*, excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

Adverse Reactions: Drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver function tests advisable during protracted therapy.

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MEETINGS *continued*

April 15

10th Annual Charles W. Thomas Lecture on Rheumatology by Dr. Eric G. L. Bywaters, London (Medical College of Virginia), George Ben Johnston Auditorium, *Richmond.* Shaun Ruddy, MD, Box 263, MCV Station, Richmond VA 23298.

April 18

Mood Disorders in Children (Children's Hospital National Medical Center and George Washington University Medical Center), *Washington DC.* Susan Weiss, Convention Services, Children's Hospital, 111 Michigan Ave. NW, Washington DC 20010, (202) 745-3000.

April 21-24

American College of Physicians, 61st Annual Session, *New Orleans.* ACP, 4200 Pine St., Philadelphia PA 19104.

April 24-26

Birdsong Pediatric Conference: General Pediatrics, Infectious Diseases, Neonatology, Endocrinology (University of Virginia), *Charlottesville.* J. Owen Hendley, MD, University of Virginia Medical Center, Charlottesville VA 22908.

April 25-27

2nd Annual Conference on Emergency Medicine for the Primary Care Physician (Medical College of Virginia), *Williamsburg.* 13 hrs. Cat. I. Fee, $150. Ms. Glenda Snow, Dept. CME, Box 48, MCV Station, Richmond VA 23298.

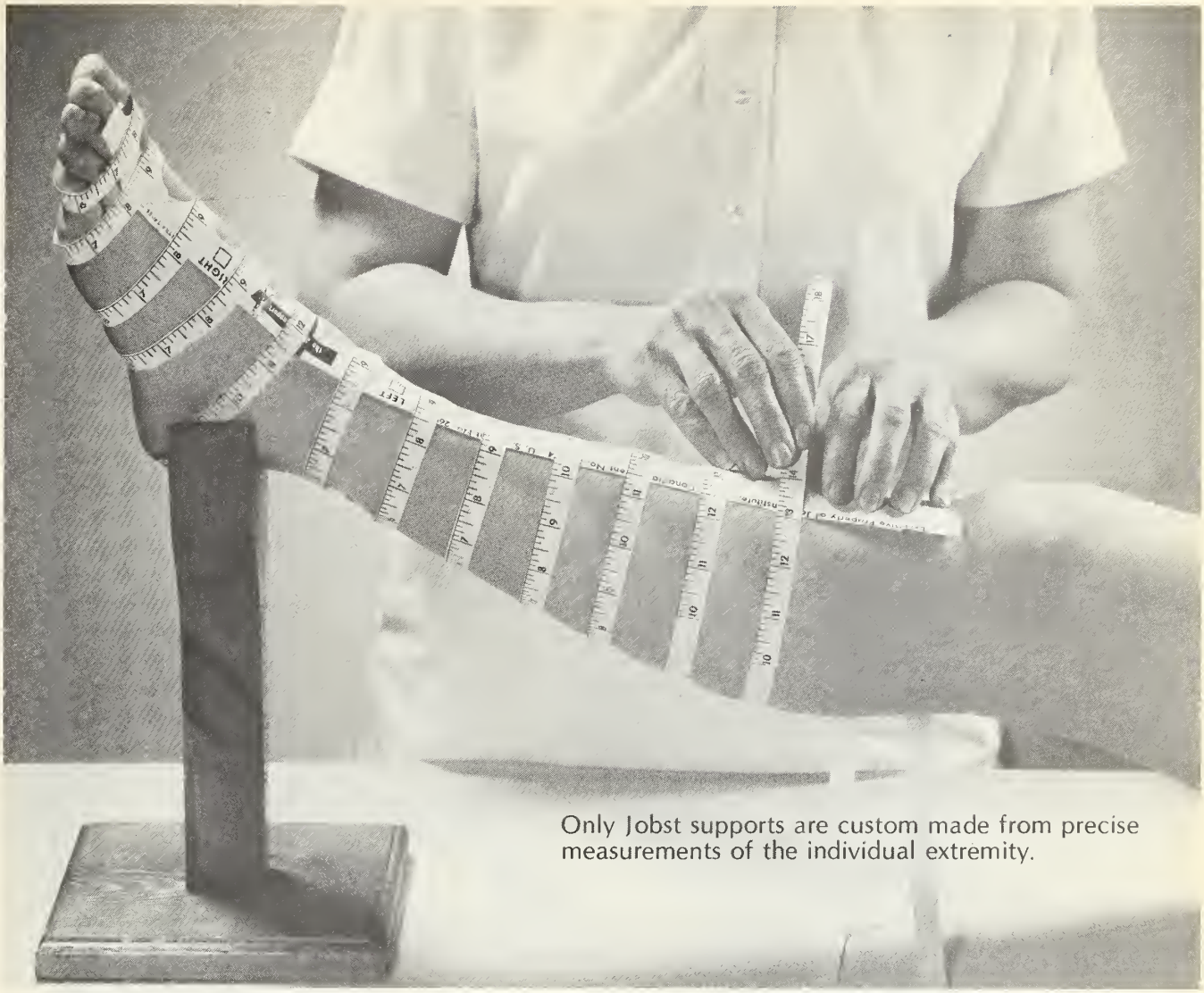
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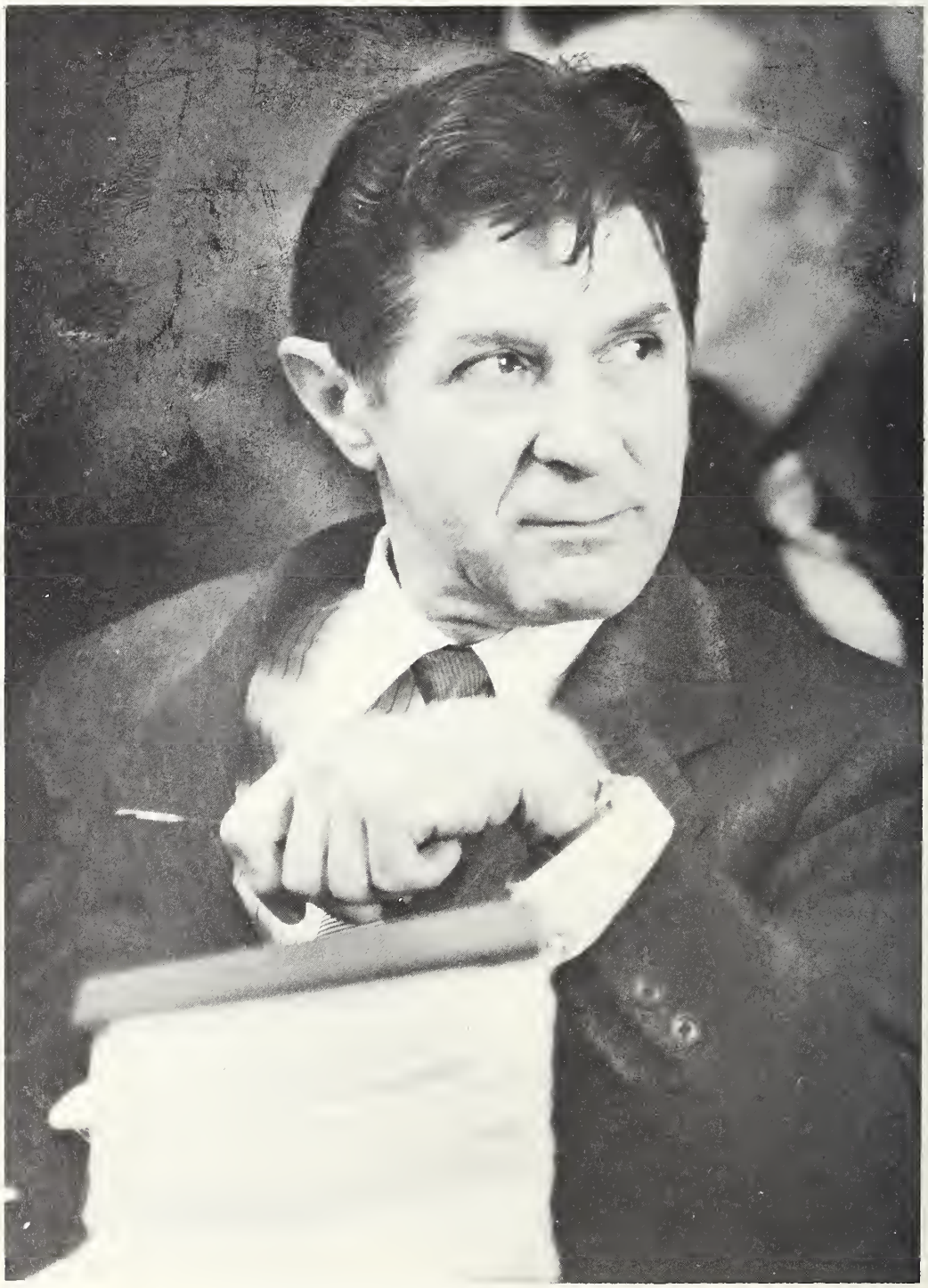
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State Senator John C. Buchanan, MD

VIRGINIA
MEDICAL
FEBRUARY 1980

This Virginia Doctor Doubles as a Senator

By Carl L. Shires

"Doctor Buchanan, a Wise County Democrat, is a man of many talents and of peerless academic background and training. If he has a fault, it is this: He is immodestly modest." The only physician in the 140-member General Assembly is interviewed exclusively for VIRGINIA MEDICAL.

MENTAL atrophy is not a condition ever apt to overcome Dr. John C. Buchanan, the only physician in the 140-member Virginia General Assembly.

He keeps too busy running his Southwest Virginia medical practice, travelling down to Richmond for annual legislative sessions, and moving those same 360 miles an average of once weekly for between-session meetings of the multiple committees and subcommittees on which he serves.

Dr. Buchanan, a Wise County Democrat serving in the Virginia Senate, is a man of many talents and of peerless academic background and training. He is a tremendously effective, low-keyed speaker. He is possessor of a Phi Beta Kappa key, member of the honorary medical society AOA, winner of half a dozen battle stars in World War II, and a member of five potent Senate committees.

But prying loose those biographical tidbits during an interview with him could be likened to removing a deep-seated tumor. His reticence to talk of himself makes him in writers' parlance a "tough interview."

If he has a fault, it is this: He is immodestly modest. An example is the biographical handbook on legislators published annually at the Capitol. Information contained therein is based on what members say of themselves. The Dr. Buchanan synopsis takes four lines—two of them saying he's a Democrat, where he's from, and that he's been in the Senate since 1972. In marked contrast, less modest of his colleagues take up to 36 lines.

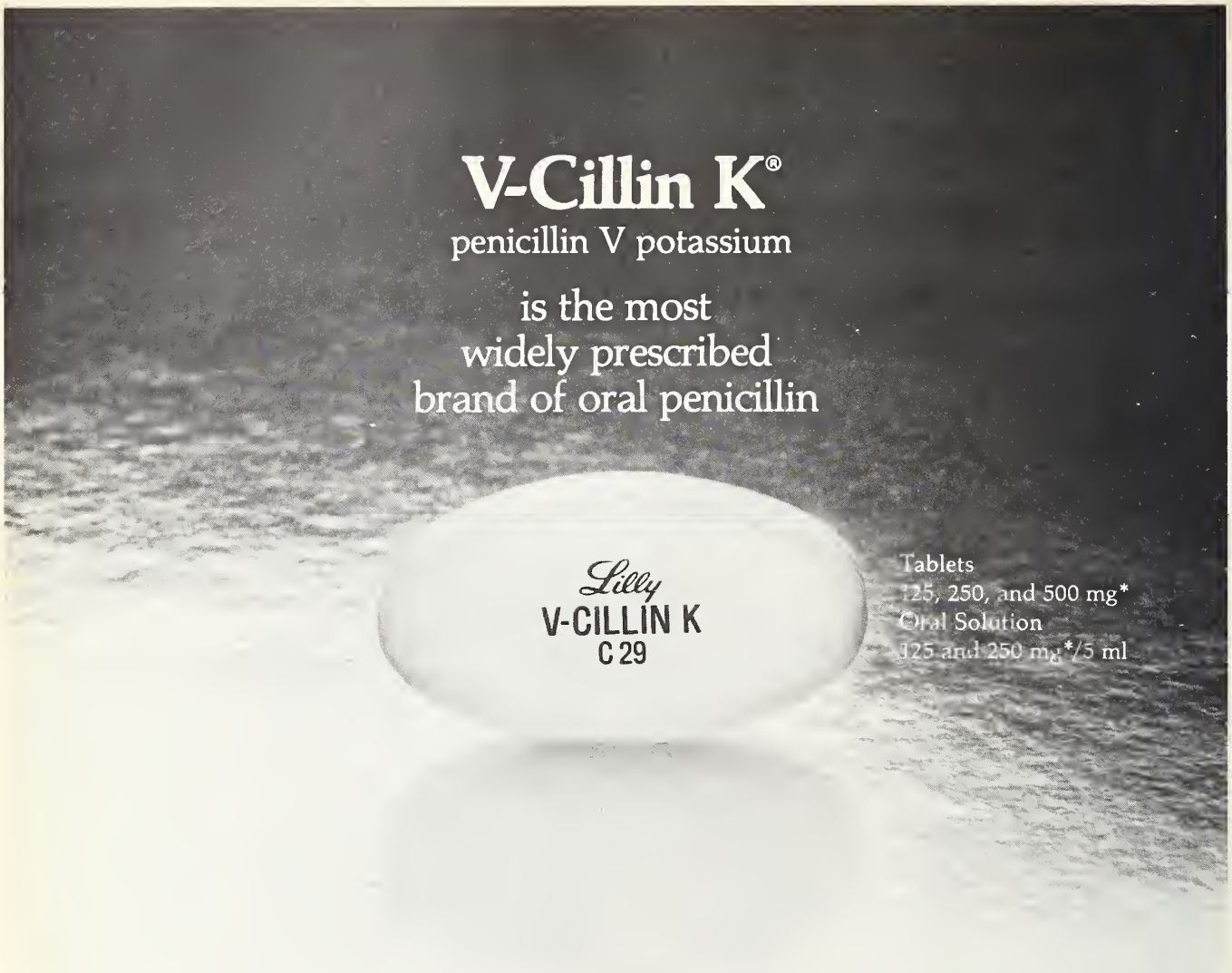
Dr. Buchanan doesn't belong to The Medical Society of Virginia. As is typical of Dr. Buchanan, he explained why: "I belonged to the Society, but then when I decided to run for the Senate, I thought it best that I resign. I wondered about a possible conflict of interest; I foresaw there would be legislation on which I would have to vote, and my vote might be construed as representing one segment, that my effectiveness might be diluted....In most instances, I think the Society is honestly well-motivated, but I'm not in Richmond to represent it."

And Dr. Buchanan applies that principle to a place where it hurts—his pocketbook. His first time out in 1971 as a campaigner he would accept no campaign contributions from any organizations and put a $100 limit on contributions from individuals. In subsequent campaigns, however, he accepted no contributions at all. This past fall, when he won a Senate seat for the third time, this modest man paid his own modest campaign costs. But then he had to spend only $2,500 to whip his opponent.

As might be expected when there is only one doctor in the house, Virginia legislators turn to Dr. Buchanan for advice and counselling on medical legislation. And it is unusual when they do not accept his diagnoses and prescriptions, for in addition to being a medical man, he has a wide strain of the lawyer and noticeable streaks of the semanticist/grammarian.

It was he and Del. Ford C. Quil-

Carl L. Shires was for 25 years a reporter for the *Richmond News-Leader* and is now a free-lance writer. This is the second in a series of articles he is writing for VIRGINIA MEDICAL on subjects related to the Virginia legislature. His first article, an interview with A. L. Philpott, Speaker of Virginia's House, appeared in the January 1980 issue.



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Precautions: Use with caution in individuals with histories of significant allergies and/or asthma. Do not rely on oral administration in patients with severe illness, nausea, vomiting, gastric dilatation, cardiospasm, or intestinal hypermotility. Occasional patients will not absorb therapeutic amounts given orally. In streptococcal infections, treat until the organism is eliminated (minimum of ten days). With prolonged use, nonsusceptible organisms, including fungi, may overgrow; treat superinfection appropriately.

Adverse Reactions: Hypersensitivity, including fatal anaphylaxis. Nausea, vomiting, epigastric distress, diarrhea, and black, hairy tongue. Skin eruptions, urticaria, reactions resembling serum sickness (including chills, edema, arthralgia, prostration), laryngeal edema, fever, and eosinophilia. Infrequent hemolytic anemia, leukopenia, thrombocytopenia, neuropathy, and nephropathy, usually with high doses of parenteral penicillin. [102175]

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len, from Gate City in coal-mining country, who got together and worked far into the night to write a bill deemed constitutional and providing for a 1% mine-head coal severance tax. The bill passed. Said lawyer member Ford: "He's a better lawyer than I am." Other lawyers at the Assembly have echoed that sentiment. "I would have to rate that bill as representing the greatest economic importance to the area I represent," said Dr. Buchanan.

Of importance, also, to his constituents have been his workings on mine safety, black lung disease and an emergency medical plan for the state. The latter merges with mine safety. He is chairman of a mine safety study group and thinks current laws on that matter are "pretty good as to what should be done and what should not be done...but they are inadequate on definitions." He is working on definitions. And, with the dictionary habit, is good at it, sparse and precise in language, strict in punctuation. "You would be surprised how a semi-colon can change the meaning of legislation," he ruminated.

As a freshman senator, he did a most unfreshman-like thing. He rose on the Senate floor and spoke to a pending measure, one to extend state unemployment benefits to black lung victims. He didn't speak long, about 10 minutes, and spoke in his impassioned manner concerning black lung—as common as dust in coal country. He said, in effect, that the disease is lethal and prevalent, that marked men would not be collecting benefits for long. Colleagues listened to this weasel-wiry man from the mountains, agreed with him, extended the benefits over opposition.

As might be expected from an internist practicing at the Wise Regional Hospital, Dr. Buchanan is an expert on black lung. It was late in his life when he became a medical man; he was 40 when graduated from the University of Virginia School of Medicine ("I guess I always had medicine in mind, but there was a question of money"). But lots of things had happened between undergraduate work at UVa and his positive move toward medicine. Such as: Stints with the Internal Revenue Service and the US Civil Service Commission and three years as a schoolteacher. A little binge called World War II, in which he rose to lieutenant and served as an air operations officer aboard the Enterprise. ("Six or seven battle stars, I can't really remember the exact number," was extracted from him.) Ownership of a Phi Beta Kappa key also was extracted. "No, I don't wear it; I just never seemed to have the right watch and chain."

In the running controversy involving ophthalmologists and optometrists, concerning the right for the latter to administer certain drugs, Dr. Buchanan is on the side of the ophthalmologists. "I think," said he, "that we should not delegate too much medical practice to those not fully trained in medicine."

He is warily optimistic concerning efforts to curb medical costs, though he admits "I sometimes wince when I see what medical care costs." His wary optimism comes primarily from what he sees as "serious voluntary cost containment efforts" on the part of the Virginia Hospital Association. From the physician's end on cost containment, he sees positive moves from the Professional Standards Review Organization.

After graduation from medical school in 1951, Dr. Buchanan, 69 in January, pulled three years of internal medicine work in Birmingham. Then he was back at the University of Virginia for more training. He joined the staff of Wise Regional when it opened 24 years ago. Why Wise? "I had my ties there."

As a physician, the doctor/senator is strong on physician care. He opposed a bill which would have prevented third- and fourth-year medical students from doing hospital admission histories and examinations. "Medical history is an important part of diagnostic work," he argued. The students may do those things, in the legislation finally passed, but a physician would do a history and examination during hospitalization, according to the compromise. "Can you imagine a patient going to a hospital and never coming in contact with a physician?" Dr. Buchanan asked rhetorically.

On the question of "medical necessity" for hospitalization, a question of great import to insurance companies, Dr. Buchanan explains his stand in opposing too strict guidelines. "A man comes to me complaining of chest pains. I can't see those pains, I can't hear them and they don't show on an x-ray. But what if I send him home and he dies before he gets there? Of course, everybody wants to avoid unnecessary hospitalizations."

Dr. Buchanan is even modest about his almost total abstinence from alcohol—as though admitting to absolute abstinence would be immodest admission. "I think I had a drink or two when our ship's company met in New York in 1960...Admiral Halsey was there...now don't go and make it look like I'm a friend of the admiral or anything like that; he was there and I happened to be there..." How modest can you get?

How does one man manage so much? Utilization of time. For example, cassettes. He plays those cassettes during the 7-hour drive to Richmond ("I think it is about equal to attending a 3-day symposium on a medical subject...the extraneous matter has been removed."). And then on a plane (5 to 5½ hours because of long drives to a regional airport) there is always that dictionary and those medical journals.

No mental atrophy in this man.

Precision Hip Nailing by Computer Assisted Direct Observation

C. F. Woodhouse, MD, *Clifton Forge, Virginia*

The stakes are high in nailing the fractured hip of an elderly patient, for proper placement of the nail can save the patient from a bed-and-chair existence. The author presents a technique in which the use of a computer with television screen permits the surgeon to observe the placement of the nail as he operates, greatly enhancing precision.

FRACTURES of the hip in elderly patients are the most common, most disabling and most life threatening of all injuries of the aged. Unless they are able to bear at least partial weight on the fractured hip in a walker and mobilized quickly, these patients are condemned to a bed-ridden or bed-and-chair existence for several months, until the bone heals strongly enough to resume at least partial walking.

The stakes are high at surgery on these patients. Not only is the operative and hospital mortality high because of severe concomitant system diseases, but also a great deal rides on the success of the surgery. If the nail used is well placed in the strongest part of the neck of the femur and if a firm mechanical hold is obtained in the head and along the shaft, the patient can walk with full weight on the fracture within a few days. If, by technical mischance, the nail is placed insecurely through the weak central bone of the neck and is not well imbedded in the posterior bone of the femoral head, the chances are high that the insecure and poorly placed nail will cut out, requiring reoperation. The patients, who may be too frail or too senile to use crutches or a walker with any assurance of non-weight bearing, must, because of a poorly placed nail, be confined to bed and chair for far too many months of their remaining lives.

A great deal, then, depends upon the adequacy of the surgery.

For 50 years and more surgeons have nailed fractures of the hip with the aid of anterior-posterior and lateral roentgenograms. Many operative techniques, different types of nails, guides, measurement systems and apparatus have been proposed. The most recent, a pendulum drill guide,[1] merely estimates the anteversion angle of the femoral neck by holding up a guide to the lateral x-ray and setting the angle from a two-dimensional projection of a three-space vector!

Let us set the limits of precision first and then work backwards to the mechanical technique of pinning a hip. Do we wish, as any competent non-precision machinist does, to work to limits of .001″ and 30

When this manuscript was written, Dr. Woodhouse was practicing in Clifton Forge, Virginia. He has since relocated and should be addressed at Suite 605, Fort Sanders Professional Building, Knoxville, Tennessee 37916.

A scientific exhibit illustrating the technique described in this article was presented by Dr. Woodhouse at the Annual Meeting of The Medical Society of Virginia at the Homestead, Hot Springs, Virginia, November 2-3, 1979, and was awarded second prize for excellence.

Submitted 11-19-79.

sec of arc? Do we work, as a carpenter blind-doweling a mitre joint, to limits of 1/32″ (.03″) and 1° of arc? Or do we look at an anterior-posterior x-ray of unknown magnification and a lateral x-ray of unknown distortion and, basing our decision on years of surgical experience, drill a guidepin "about here"?

Can we set our sights lower than the standards for journeymen carpenters? Can't we put the tip of a femoral nail within .1″ and 1° 30′ of where we want it? I believe we can and that we should accept no less.

The nail must be placed, on the first attempt, in the most mechanically advantageous position, in the most adequately reduced fracture; both of these factors are well known and documented.

What then are the factors, what are the data upon which we can base such a precision method? Disregarding the hip fracture entirely, we are left with a simple mathematical problem in vector analysis.

1. *Given:* The direction of a guide pin towards the head of the patient, x; the direction across the patient, y; the vertical angle, z; and the exact interosseus length of the guide pin, we have a precise vector in space measurable at surgery without any difficulty to .01″ and ± .1°.
2. *Determine:* The vector of the nail in three-space to place the tip of the vector at the tip of the nail and the base of the vector at the lateral cortex at the fixed or variable angle of the nail type desired.

Factors Affecting Accuracy

AP Magnification. The magnification of the anterior-posterior image is determined by this ratio: (focal spot to image plane)/(focal spot to object plane).

This cannot be determined with any precision at surgery due to variables beyond the surgeon's control or his ability to measure accurately. The variable thickness of the patient, osseous build, and, most variably, the angle of internal/external hip rotation required to reduce the fracture, all affect the two-dimensional image of the three-dimensional femoral neck, guide pin, and nail.

The magnification can, however, be determined to any accuracy required from the two-dimensional x-ray images of the three-dimensional guide pin vector.

$$M_{ap} = (X\ G\ PIN/T\ G\ PIN)/\cos \theta_g$$

where:

M_{ap} = magnification factor.
X G PIN = AP X-ray Guide Pin (± .005″)
T G PIN = True Guide Pin in (± .001″)
θ_g = Measured vertical angle Guide Pin (± 30′)

Lateral Magnification. Applying M_{ap} to the x-ray measurement of the anterior-posterior head (HAP)

$$\text{True HAP} = \text{HAP}/M_{ap}$$

and since the head is spherical:

$$M_{lat} = (\text{H lat})/(\text{T HAP})$$

where:

H lat = Head measurement lateral x-ray (± .005″).

Thus, the factors of x-ray head distance, patient variability, image plane distance and, importantly, the distortion occasioned by "catty corner" lateral angle and magnification are eliminated. We now have a precise magnification factor for any point on the interosseous guide pin and for any x, y, z coordinate, which we may determine from the anterior-posterior (x,y) and lateral (z) two-dimensional projection images of the hip (Fig. 1).

The precision of the method now falls into place with the elimination of all independent variables. With a fixed angle nail placed an exact distance from the inner calcar cortex (e.g., .125″), the bottom edge of the nail must follow the first derivative of the third order polynomial equation for the .125″ displaced line of the calcar as referenced to the guide pin, with

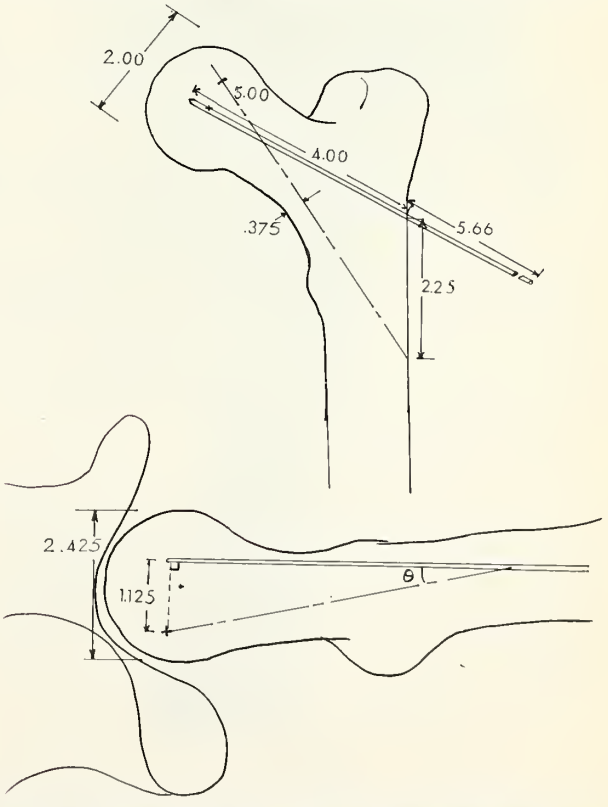


Fig. 1. Tracings of AP and lateral post-reduction x-rays from which applicable data are taken.

a slope equal to the tangent of the angle of the nail referenced to the line of the shaft and again referenced to the vector of the guide pin. This sounds more complicated than it is. In practice, a hand calculator runs the program in less than six seconds, an insignificant time. A computer with graphic TV tube display is even faster.

We now have the point of entrance (POE) for the bottom of the nail. The center line distance up the shaft is:

$$D = R \sin \theta$$

where

D = Distance from POE
θ = Angle of nail
R = Radius of nail

We now have the true point of entrance (TPOE) of the nail as referenced to the base of the guide pin to whatever degree of accuracy required. The anterior-posterior angle for placement of the nail tip is now determined from the lateral x-ray. The tip position of the nail is chosen, in the lateral view, and a perpendicular dropped from the guide pin tip to the desired line of the nail. This determines the vertical offset required.

$$\theta_n = \theta_g + \arctan\left(\frac{GPN}{TPGIN\ M_{lat}}\right)$$

where:

θ_n = True vertical angle nail (± 30′)
GPN = Distance guide pin tip (lat) to true nail line (± .005″)

Finally, the centerline length of the nail is determined (NAP). The line of the nail is drawn on the anterior-posterior x-ray and the length from the desired tip position to the TPOE determined. Since the nail is at a different angle from the guide pin, its true centerline length is determined by

$$TLN = (NAP/M_{ap})/\cos \theta_n$$

For some strange reason, Jewett nails and some other nails, *but not all*, are stamped with the measurement of the *bottom* of the nail, not its centerline length. Thus, the true interosseous length (TNL) of the nail is:

$$TNL = N - R \tan (180 - \theta)$$

where:

N = marked nail length
θ = marked angle of nail
R = radius of nail

The final length, N_F, is:

$$N_F = N + R \tan (180 - \theta).$$

The surgeon must be careful to correct this engineering oversight in any attempt at precision with this or any other technique.

Discussion

In brief, most of these operations are done under local anesthesia unless the patient is younger than 65 or remarkably healthy. Most of our patients are hardy mountain people and seem to do better without tubes and machines.

A single guide pin is inserted to determine the vector; the nail may then be inserted without using a second guide pin. The mathematical computations of an accurate vector analysis are performed on a TI-59 program calculator with or without a hard data printout. A more sophisticated but far simpler data entry is from a "digitizer tablet" directly into a 48 K minicomputer; translated, this means that the surgeon draws the x-rays into the computer and touches the spot where he wants the tip of the nail. The computer then computes. The anterior-posterior and lateral x-rays are drawn on the TV screen and the line of the nail flashes up, together with the exact length to .001″, the exact distance down the shaft to the hole into which the nail is driven, and the exact vertical angle to 0.01 degree at which the nail must go (Figs. 3).

Surgeons cannot as yet approach the accuracy of the computer. But we can and routinely do place a nail within .1″ of where we wish it to be on the first attempt. With this "CAN-DO" technique we are freed, finally, of the awesome responsibility of condemning a patient to "bed and chair" for several months because we place a nail "about there".

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The author acknowledges with gratitude the invaluable assistance of A. W. Brown, BSc. C. E. Woodhouse, and S. Sankar, PhD, in elements of this manuscript relating to computer programming and mathematical analysis.

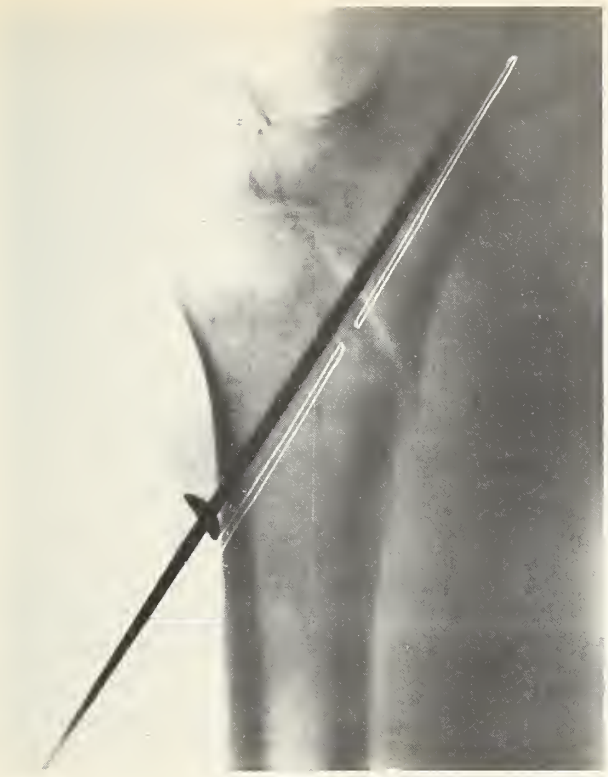


Fig. 3A.



Fig. 3B.



Fig. 3C.



Fig. 3D.

Computer-assisted nailing of hip fractures by direct observation. Fig. 3A. AP post-reduction x-ray, with white lines marking chosen nail position. Fig. 3B. Lateral post-reduction x-ray with guide pin. Figs. 3C and 3D. AP and lateral x-rays showing final nail position.

Donor Artery Changes Following Anastamosis

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Albert B. Butler, MD, and H. Richard Winn, MD,
Charlottesville, Virginia

By arteriographic study the authors find there is marked enlargement in diameter of the donor artery and a significant increase in blood flow following superficial temporal-middle cerebral anastamosis.

MICROVASCULAR techniques have allowed the surgical construction of collateral channels to augment circulation to symptomatic or potentially symptomatic ischemic areas of the brain.[1] Among the various procedures available, anastamosis of the superficial temporal artery or the occipital artery to the middle cerebral cortical branches has the widest application for the treatment of patients presenting with transient ischemic attacks (TIA) and reversible ischemic neurologic deficit (RIND) who have shown occlusive intra-arterial lesions not amenable to a more conventional mode of surgical therapy[2-5]. These lesions include: extracranial internal carotid occlusion and carotid siphon stenosis or occlusion, and middle cerebral artery occlusion or stenosis. Such lesions can be demonstrated angiographically alone or in combination with more proximal occlusive disease in 20-30% of patients suffering cerebral ischemic episodes[2].

Investigations of regional cerebral blood flow in patients having superficial temporal artery-middle cerebral artery anastamosis demonstrate significant increase in blood flow after the anastamosis[5]. And, moreover, it has been demonstrated that the donor artery can undergo enlargement in diameter, which further suggests that artificial bypass is capable of offering additional blood supply[7-10].

Patients have been referred to the Department of Neurosurgery, University of Virginia Hospital, for evaluation of cerebral ischemic episodes, and various types of extracranial-intracranial arterial anastamoses have been performed in selected cases. The purpose of this report is to present two cases in which donor superficial temporal arteries have undergone remarkable enlargement within 7 and 8 days respectively following superficial temporal-middle cerebral artery anastamosis.

From the Department of Neurological Surgery, University of Virginia School of Medicine, Charlottesville VA 22908.

Submitted 3-2-79.

Case Reports

Case 1.

This 47-year-old white male developed sudden onset of numbness in the lower two-thirds of the face and forearm on the left and weakness of the left arm five days prior to admission, which cleared over the next 12 hours. Blood pressure on admission was 150/100. There were no carotid or supraclavicular bruits. No fixed neurologic deficit was found. A dynamic radionuclide scan showed decreased perfusion in the left middle cerebral distribution. Angiography revealed a complete occlusion of the origin of the left internal carotid artery; the external carotid artery was normal (Fig. 1). The left middle cerebral artery group was supplied from the vertebrobasilar system

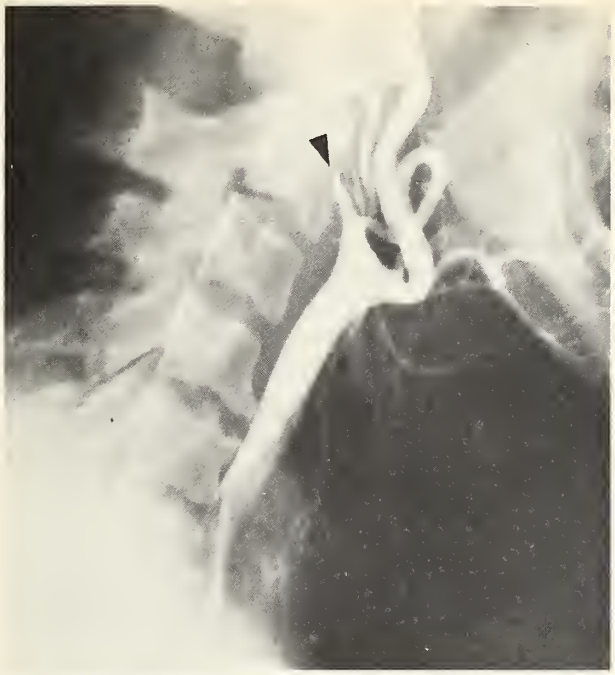


Fig. 1 (Case 1). Left internal carotid artery occluded at the bifurcation (arrow). External carotid artery shows no atherosclerotic change.



Fig. 2 (Case 1). Diameter of parietal branch of superficial temporal artery 1.5 mm (arrow). Frontal branch continuous with supraorbital artery and part of collateral circulation.

through the posterior communicating artery. The parietal branch of the superficial temporal artery was 1.5 mm in diameter and the frontal branch was participating in collateral circulation through the supraorbital artery (Fig. 2). A small shallow plaque was present along the medial surface of the right internal carotid artery at the bifurcation.

It was assumed that the transient ischemic attack was attributable to embolic phenomenon from an atherosclerotic plaque in the right internal carotid artery. It was also felt that the anastamosis of the parietal branch of the superficial temporal artery to the middle cerebral artery on the left, preceding carotid endarterectomy on the right, might reduce the operative risk of the endarterectomy and also decrease the possibility of a stroke in the left cerebral hemisphere. The anastamosis between the parietal branch of the superficial temporal artery and the parietal branch of the middle cerebral artery on the left was performed. There were no postoperative complications.

Selective angiography was obtained eight days following the anastamosis, revealing the anastamosis to be patent and a 75% increase in the diameter of the parietal branch of the superficial temporal artery. The parietal branch of the superficial temporal artery filled the entire suprasylvian group for the middle cerebral artery, although the infrasylvain group of the middle cerebral artery was not visualized (Fig. 3).

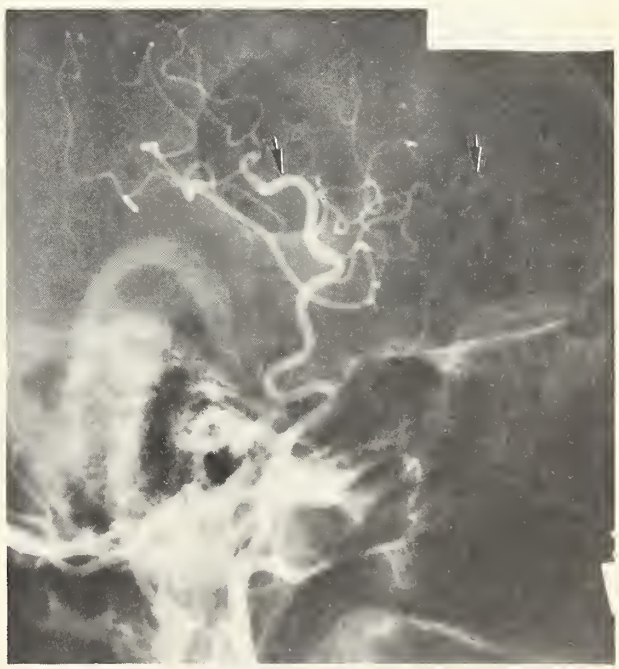


Fig. 3 (Case 1). Postoperative angiogram shows 75% increase in diameter of parietal branch of superficial temporal artery (left arrow). Frontal branch visualized and unchanged in size (right arrow). Entire suprasylvian group of middle cerebral artery supplied by superficial temporal artery.

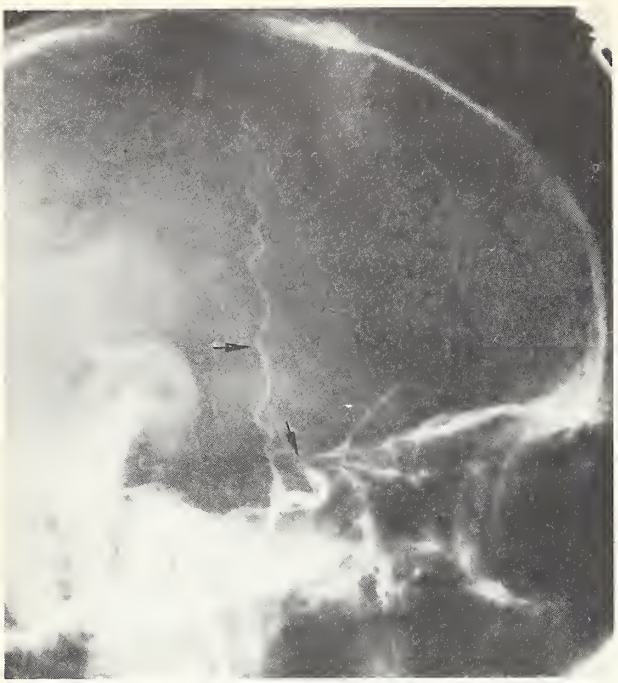


Fig. 4 (Case 2). Left carotid angiogram shows complete occlusion of internal carotid artery just distal to origin of ophthalmic artery (lower arrow). Parietal branch of superficial temporal artery 1 mm in diameter (upper arrow).

Good venous drainage was noted from the entire territory of the left middle cerebral artery. Forward collateral flow to the middle cerebral artery from the vertebrobasilar system through the posterior communicating artery on the left and the external carotid-opthalmic anastamotic channel were still visualized although very much diminished postoperatively.

The patient was discharged with plans to undergo a right carotid endarterectomy if he had recurrent transient ischemic attacks referrable to the right cerebral hemisphere. About one month later, he had a recurrent attack of weakness and numbness of the left arm which did not resolve. A CT scan following the attack showed decreased density in the right frontoparietal region consistent with an ischemic infarct. He underwent a right carotid endarterectomy and was discharged after an uneventful postoperative course.

Although the patient had no ischemic attacks following the endarterectomy, his monoparesis of the left arm did not resolve. Two months following the endarterectomy, another superficial temporal-middle cerebral anastamosis was performed on the right on the assumption that the anastamosis might enhance the blood flow to the area with improvement of his weakness. He has since been free of recurrent ischemic attacks, but there has been no improvement of the weakness.

Case 2.

This 59-year-old, hypertensive, right-handed man presented with a four-week history of crescendo transient ischemic attacks. These attacks consisted of 10-to 15-minute episodes of expressive aphasia, numbness and weakness of the right extremities, and drooling from the right side of the mouth. The attacks most frequently occurred while he was standing. His blood pressure on methyldopa (Aldomet) at the time of admission, was 150/105 supine and 110/85 sitting. The methyldopa was stopped, and he continued to have transient ischemic attacks even while supine. There was neither carotid nor supraclavicular bruit. Neurologic examination did not show any deficit except for hypertensive retinopathy.

A dynamic radionuclide scan displayed no isotope activity in the left carotid artery. Perfusion in the left middle cerebral distribution was slightly decreased on early views, with increased activity on the later views suggestive of good collateral flow. Angiography revealed a complete occlusion of the left carotid siphon just distal to the origin of the opthalmic artery (Fig. 4). Also noted was spontaneous cross-flow from the right side through the anterior part of the circle of Willis, with good filling of the left anterior and middle cerebral arteries. A minimal narrowing of the right carotid siphon was also present. The middle cerebral branches on the left were partially supplied by the vertebrobasilar system through the posterior

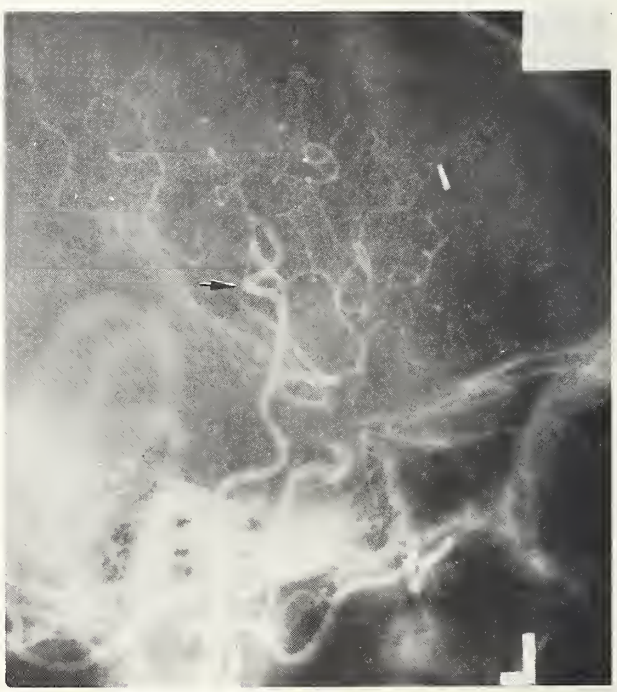


Fig. 5 (Case 2). Postoperative angiogram shows 100% increase in diameter of donor artery, filling entire suprasylvian group of middle cerebral artery (arrow).

communicating artery. The left external carotid system was well visualized and the parietal branch of the superficial temporal artery measured about 1 mm in diameter, with slight narrowing just distal to the take-off of the anterior branch (Fig. 5).

It was our opinion that the transient ischemic attacks were most likely due to a decrease in perfusion of the left cerebral hemisphere. Therefore, an anastamosis of the parietal branch of the superficial temporal artery to the parietal branch of the middle cerebral artery was performed. Selective angiography was obtained seven days following the anastamosis, which showed the entire suprasylvian group of the middle cerebral artery to be supplied by the superficial temporal artery through a patent anastamosis. Although the frontal branch was not visualized a 100% increase in the diameter of the parietal branch of the superficial temporal artery was visualized. The segmental narrowing of the parietal branch just distal to take-off of the frontal branch, noted preoperatively, was no longer present which indicated a generalized enlargement of the donor artery following the anatasmosis. The patient has remained free of transient ischemic attacks since the time of surgery.

Discussion

The postoperative decerase in forward collateral flow to the middle cerebral artery distribution from the vertebrobasilar system as shown in Case 1 suggests that a redistribution of blood volume within the cerebral circulation might occur following anastamosis and, as a result, symptoms attributable to an intracerebral steal phenomenon could be eliminated. In both cases, the enlarged donor arteries irrigated the areas of suprasylvian branches of the middle cerebral artery and also of the angular artery, although not the areas of infrasylvian branches. Holbach et al reported an identical pattern of blood supply through superficial temporal-middle cerebral artery anastamosis[11]. This further implies that the donor artery should be anastamosed to a cortical branch supplying the ischemic area.

Poiseulle's law states that volume flow is directly proportional to the pressure drop across a given length of conduit and to the fourth power of the radius of the conduit. Although it is true that the law is only qualitatively applicable to the human vascular system, which has highly variable dimensions, elastic walls and constantly changing pressures[12], the importance of the effect of small changes in the radius of the conduit on flow are particularly noteworthy. In addition to the diameter of the donor artery, various factors, such as the amount of collateral flow available to the middle cerebral artery distribution as well as peripheral resistance in the recipient and donor arteries, will determine the ultimate degree of blood flow carried by a superficial temporal artery-middle cerebral artery anastamosis. Occlusion of the internal carotid artery induces variable decrease of perfusion pressure within the territory of the middle cerebral artery[13].

Magnification was compensated for mathematically in both cases, and it was noted that postoperatively the donor artery had enlarged in diameter by 75% within eight days in Case 1 and 100% within seven days in Case 2. In Case 1, enlargement occurred in the stem and the parietal branch of the superficial temporal artery, in contrast to the frontal branch, which remained the same size postoperatively. This selective enlargement of the donor branch may be evidence that the donor artery undergoes enlargement in response to physiologic demand in order to offer significant blood flow to the middle cerebral artery complex. Spetzler et al reported a 60-150% increase in the diameter of the superficial temporal artery following the anastamosis although no time interval was indicated[10]. Additionally, they demonstrated an apparent enlargement of the donor artery on an angiogram obtained 12 days following the superficial temporal artery-middle cerebral artery anastamosis. Little et al also reported enlargement of the donor artery from 1 mm before surgery to 2 mm postoperatively after anastamosis, using a continuous suture technique[9]. However, one can presume that the increase in diameter of the donor artery may take place as soon as the anastamosis starts to function. To the best of our knowledge, enlargement of the donor artery within several days following the anastamosis has not been angiographically demonstrated in humans, partly because of the risk of angiography occluding anastamosis precludes its use in early postoperative state.

Conclusions

The donor superficial temporal artery has been shown to enlarge in diameter by 75% within eight days and 100% within seven days respectively following superficial temporal-middle cerebral artery anastamosis. The clinical correlation associated with this finding remains to be determined.

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Cancer Trends: Glioblastoma Multiforme and Radiation Therapy

William J. Peeples, MD, and Anas M. El-Mahdi, MD, *Norfolk, Virginia*

After a century of experience with brain tumors, oncologists today can offer the patient with glioblastoma multiforme only limited survival time with the best treatments known today. Radiation therapy has prolonged survival, though not to significant degree.

IN Glasgow, Scotland, 100 years ago, William Macewen removed the first brain tumor, a meningioma. About five years later in 1884 Bennett and Godley in London diagnosed and partially removed the first glioma of the brain. Harvey Cushing removed the first brain tumor in the United States about 60 years ago.[1] Despite a century of experience, we are today doing very little better than these early pioneers did. Surgical mortality has been drastically decreased with better methods of relieving intracranial pressure and cerebral edema, improved anesthesia, and more refined surgical and diagnostic techniques, but we still know very little about the chemistry of the various types of gliomata and almost nothing about their epidemiology and the prognosis for gliobastoma is in general not influenced by the variations in treatment.

From the Department of Radiation Oncology and Biophysics, Eastern Virginia Medical School, Norfolk VA 23507.

Presented on 11 May 1979 at a meeting of the Virginia Chapter, American College of Radiology, in Williamsburg.

The Cancer Trends series appears under the editorship of J. Shelton Horsley III, MD; Gerald Goldstein, MD; and Anas M. El-Mahdi, MD. It is sponsored by the Professional Education Committee, Virginia Division, American Cancer Society.

Method

Seventeen patients with glioblastoma multiforme were treated in the Department of Radiation Oncology and Biophysics, Eastern Virginia Medical School, from 1976 through 1978. Eleven of these were male, 6 were female. All were diagnosed by biopsy or removal of the surgical specimen. All patients received radiation therapy consisted of whole brain irradiation following surgery to 5000 rads, with another 1000 rads being given to a somewhat decreased field that included the tumor; 14 patients received 6000 rads, two received 5000 rads, and one received another 1500 rads equivalent neutron therapy.

Case Reports

Three patients underwent repeat craniotomy following original surgery and radiation therapy. Their case reports follow.

Case 1. M. R., a 45-year-old white female, had a 2-3 week history of nausea and vomiting with headache. Examination revealed papilledema. Brain scan was positive. Carotid angiogram revealed a left frontal lesion which was resected with pathological finding of glioblastoma multi-

forme. This patient began radiation therapy approximately 2½ months following surgery and received 6000 rads of irradiation to the brain in 30 treatments, the first 5000 to the whole brain. The patient did quite well until approximately 5 months following completion of irradiation. She then had recurrence of her symtomatology, with headaches, increased intracranial pressure and evidence of growing tumor in the same area of the brain. The patient underwent a second craniotomy and glioblastoma multiforme was found in the sections. She lived 10 months more, receiving no further radiation therapy.

Case 2. S. L., a 44-year-old white female, had a left hemiparesis with severe headaches and vomiting. CAT scan revealed a large right frontal lobe lesion crossing the midline. At surgery the specimen removed showed astrocytoma, Grade III, with sarcomatous type features. The left hemiparesis improved following surgery. This patient received 6000 rads total of postoperative radiation therapy in 32 treatments, 5000 to the whole brain, beginning some 2 weeks following surgery and during the course of radiation received hydroxyurea, and later was given procarbazine, CCNU and hydroxyurea. Scan about 1 month after radiation showed a marked regression in the size of the right frontal lobe glioblastoma (Fig. 1). The patient continued on hydroxyurea, but had seizures 2 months later and scan was repeated; It showed no regression from the previous scan and there was no change in the size of the intracranial lesion. The patient then had second surgery, yielding a tissue diagnosis of glioblastoma, Grades III and IV. She had additional seizures and suffered a fractured hip from a fall and survived 13 months following radiation therapy.

Case 3. J. F., a 33-year-old white female, had temporal lobe seizures, numbness and tingling on the left side of her body. CAT scan revealed a large right hemispheric mass extending from the convexity to the thalamus. A right parietal craniotomy was performed, with pathological diagnosis of glioblastoma multiforme. Patient recovered and received cobalt-60 teletherapy of 1000 rads in five treatments and a total of 5000 rads of whole brain irradiation, the last 4000 being given in 20 treatments by a 4-megavolt linear accelerator. Following this the patient was referred to the Mid-Atlantic Neutron Treatment Center in Washington for neutron therapy and received 468 rads with neutrons to the brain lesion, the equivalent of 1500 rads of conventional photon therapy. The patient did well for a short period but expired 4 months after completing radiation therapy. Postmortem examination showed persistent glioblastoma multiforme in the original area affected (Fig. 2).

Results

Of the 17 patients treated in this series, only three are still alive. One of the survivors completed radiation therapy in February 1979, the other completed radiation therapy in November 1978. The third survivor is a child who was treated for glioblastoma involving the third ventricle, with surgery in May 1976 and completion of radiation therapy in July 1976. This patient is still living some 35 months after completing treatment and when last seen in September 1978 had no signs of recurrence of his tumor. CAT scan done at that time showed some enhancement at an area near the foramen of Monroe but the patient had no other signs or symptoms.

The mean survival of patients in this series, despite treatment by surgery, whole brain irradiation and one who had chemotherapy, was 11 months, which corresponds very closely to other reported series.

Discussion

Clinically, the value of radiotherapy in individual cases and in selected series of malignant gliomata has

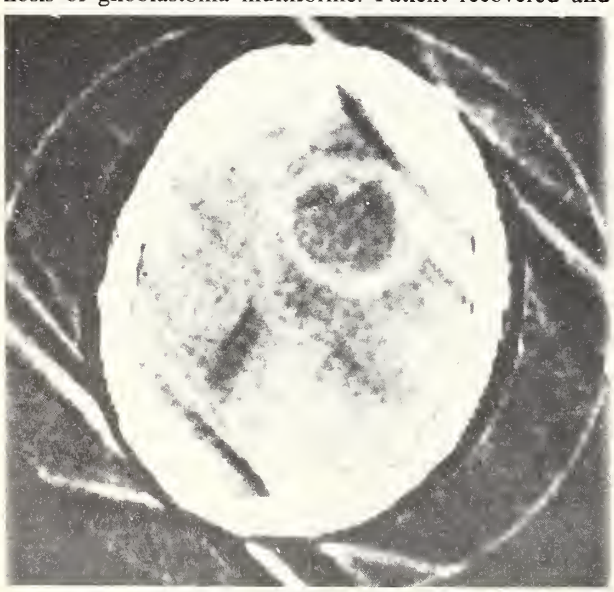


Fig. 1A(Case 2). CAT scan of brain, preoperative, showing large right frontal lobe mass, enhanced.

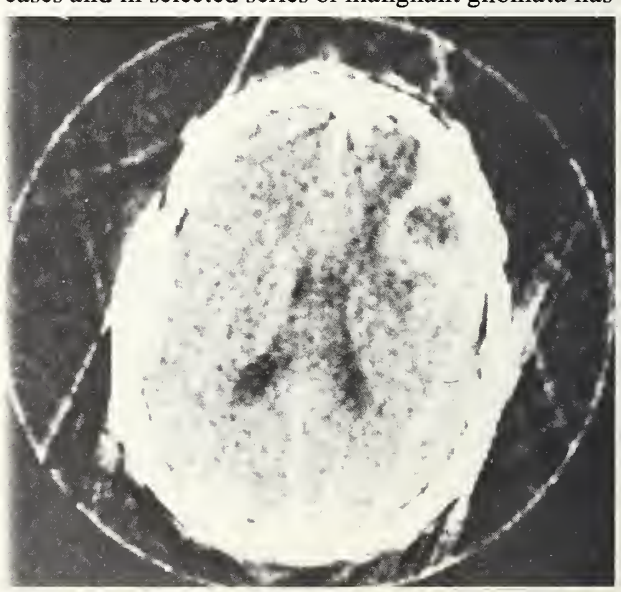


Fig. 1B (Case 2). Postoperative, after 6000 rads of radiation; note marked reduction of glioblastoma, enhanced.



Fig. 2A (Case 3). Coronal section, right frontal lobe at autopsy, showing persistent tumor.



Fig. 2B (Case 3). Photomicrograph showing persistent malignant astrocytoma at autopsy.

long been recognized. Almost 30 years ago Pierce and Bouchard[2] reported on 130 patients who were irradiated with tumor doses ranging from 6500 to 7500 rads. There was increased survival in those who had postoperative irradiation versus those who had surgery alone. In addition, 54 cases in this series were reoperated or autopsied and *all* showed tumor cells at the site of the primary neoplasm. Sheline in 1976 and 1977 reported on patients with Grade II astrocytomas who were irradiated and had increased survival rates over those not irradiated.[3] The average 5-year survival without irradiation was 2% compared to 16% for those having radiotherapy. For Grade IV tumors the weighted averages of these data showed a marked difference in favor of the irradiated groups. At one year the survival rates were 24% with irradiation and 8% without. At 3 years 6% of the irradiated group were living but none of the unirradiated group was still alive. At 5 years there were no survivors in either group.

With regard to radiation dosage, Salazar et al analyzed retrospectively the patterns of failure in the radiotherapy of 148 astrocytomas,[4] acknowledging that the most important factors influencing survival were tumor dosage and treatment volume. On the basis of this study it was proposed that the whole brain would be treated to 5000-6000 rads and that the target volume would be boosted to 7000-8000 rads; 38 patients so treated were compared with 70 patients who had previously received standard dosage of 5000-6000 rads of irradiation. The high dose group had a significant increase in survival. The median survival in the Grade IV astrocytomas was 50 weeks, compared with 34 weeks in the standard dose group, and 56% were alive at one year, compared with 29% in the standard dose group. The difference in survival persisted for 2 years only, and the cause of death in the high dose group in every case was recurrence of the tumor. No gross radiation necrosis was seen. Four of six patients who had Grade III astrocytomas were still surviving at 2 years in the high dose group.

Kramer, Concannon, Salazar and Rubin[5,6] have all reported on the findings that glioblastomas have more extensively infiltrated the brain at the time of autopsy than was suspected at the time of diagnosis. For these reasons, wide field radiation therapy has been practiced with glioblastoma multiforme, though Onoyama et al have recommended limited volume radiation to doses of more than 6000 rads.[7] They propose doses over 6000 rads, or at least 17000 rets, as the amount of radiation necessary to prolong significantly the survival time of patients with glioblastoma multiforme. These doses have not been effective in increasing survival, however.

Ramsey and Brand[8] state that a significant increase in overall survival time and tumor free period was found in cases irradiated with a high dose through limited fields.

Clinical trials utilizing hyperbaric oxygen in the treatment of glioblastoma, on the assumption that hypoxia may be an important factor in radio-resistance, were undertaken by Chang et al,[9] but there was only minimal improvement in terms of survival.

Fast neutrons, which are much less dependent on the oxygen effect than are photons, have been extensively investigated by Catteral and Bloom.[10] Neutron doses of 1560 rads in 12 fractions over a period of 26 days sterilized glioblastomatous tumors, but there was no improvement in survival because of a demyelinating syndrome in the normal brain. This is reminiscent of the demyelinating syndrome in the normal brain which occurred after photon treatments

described by Rider.[10] Parker et al have also reported on 42 patients treated in the United States with neutrons;[11] 37 of the 42 patients completed treatment. Survival for more than 12 months was only 29% and survival at 6-12 months was comparable to that reported with conventional photon radiation therapy. A subsequent paper by Parker et al[12] indicated that the average post-treatment survival with neutrons appears to be shortened, compared with photon therapy. Autopsy findings in seven patients showed replacement of tumor by coagulative necrosis, which had persisted at least 16 months after treatment. These findings differ from those in conventionally irradiated patients.

Simpson and Platts have reported on a series of 134 patients with glioblastoma multiforme who were assigned to three radiation treatment schedules wherein the patients were treated at 8-hour intervals over a period of 1-3 weeks, receiving 3000 rads total tumor dose and, subsequently, 4000 rads total tumor dose.[13] There were no significant differences in the immediate or delayed complications among the study groups and survival was not significantly different in any of the groups treated.

Caldwell and Aristizabal utilized split-course radiotherapy 5600 rads in 20 fractions over 45-50 days in 114 patients with no improvement as compared with conventional fractionation.[14]

Yung et al reported that a group of patients who received surgery and irradiation of 4200 rads to the whole brain plus triiodothyronine had an increased survival when compared with a group of patients who received surgery and irradiation to 5000-6000 rads.[15] The median survival in the triiodothyronine group was 60 weeks. In the conventionally treated group, survival was 30 weeks. They suggested there may be a radiosensitizing property in triiodothyronine.

Urtasun et al have carried out a controlled trial to evaluate the use of metronidazole (flagyl) and its enhancement effect on patients with glioblastomas of the supratentorial variety.[16] Patients were allocated to two groups after surgery, one having radiation alone, the other receiving radiation as in group one but with high dose metronidazole added. The patients in the flagyl group had a 4½-month longevity increase between treatment and subsequent death when compared with the group having only radiation therapy. The shift in survival curves suggested a delay in the time of tumor regrowth consistent with the ability of metronidazole to make the hypoxic tumor cells less radio-resistent.

Graffman et al reported a study utilizing protons to treat malignant gliomata but were unable to show any advantage in this form of radiation therapy as opposed to other modern therapies.[17] The results support the view that the radiation biologic effectiveness of high energy protons is similar to that of cobalt-60 irradiation.

Shapiro and Young have reported on a controlled study wherein patients in Group A with glioblastoma received BCNU (carmustine) and vincristine sulfate plus 4500 rads of irradiation to the whole brain.[18] Group B received only 5000 rads to the tumor. Overall survival curves were not significantly different. They concluded that postoperative irradiation and chemotherapy do not offer a long survival period. This was confirmed in another study by Reagan et al using CCNU and radiation therapy for treatment of malignant astrocytomas.[19] According to their study, CCNU did not seem to be an effective agent in the therapy of primary malignant brain tumors. A report by Walker, however, showed a control group receiving BCNU plus radiotherapy had a significantly increased survival times over those who received radiation therapy alone.[20]

One of the most promising experiments in the treatment of recurrent glioblastoma multiforme was by Young and Kaplan, who innoculated autologous leukocytes directly into recurrent gliobastoma tumors via indwelling catheters or by direct intratumoral injections through existing craniotomy openings.[21] They treated seven of 17 patients, who had a life expectancy of under one month. All patients had received definitive surgery and all but two received postoperative irradiation, nitrosurea chemotherapy, and/or dexamethasone. All showed evidence of clinically recurrent disease. Following autologous leukocyte infusion, eight patients showed clinical improvement and were alive up to 17 months later. One patient who was comatose at the time of a single leukocyte infusion returned to full activity and lived 17 months without an increase in the tumor mass by brain scan. These results would seem to support a viable additional treatment method for glioblastoma and certainly warrants further evaluation.

Summary

The outlook for patients with glioblastoma multiforme is indeed bleak. The literature is like a record with a faulty groove, repeating over and over the dismal result of non-survival. Though radiation therapy has prolonged survival, it has not materially affected the survival rate in this malignant brain tumor. So far, no controlled experiments have been reported utilizing radiation therapy along with hyperthermia in the treatment of malignant brain tumors. This method has been effective in controlling other types

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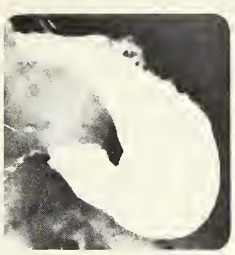
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See following page for prescribing information.

Reference:
King, J.C. and Starkman, N.M.: Evaluation of an antispasmodic. Double-blind evaluation to control gastrointestinal spasms occurring during radiographic examination. A preliminary report. Western Med. 5:356-358, 1964.

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Brief Summary

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of tumors, particularly malignant melanoma, with significantly smaller doses of irradiation when combined with hyperthermia[22] and might warrant experimentation in the treatment of glioblastoma multiforme. Otherwise, we are faced with the distinct dilemma of not being able to offer patients with this type of brain tumor more than a limited survival time following the best treatments known today.

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CANCER TRENDS COMMENT

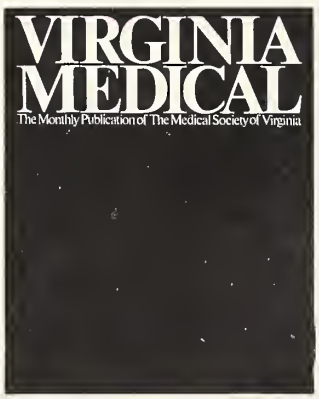
The authors present a very comprehensive review of the role of radiation therapy in the management of glioblastoma multiforme. In 1958 Frankel and German[1] reviewed the Yale University experience with this tumor. They found, as have others, that males are more susceptible than females and that the latter tend to be a little younger. They also demonstrated that the effect of treatment was not striking and was negligible after one year. Only 50% of the patients survived more than eight months and very few lived beyond two years, with 9% to 10% of the survivors dying each month.

The poor results in glioblastoma multiforme are surprising because the treatment of these tumors would appear to be an ideal setting for radiation therapy for the following reasons: 1) Gliomas pose a localized problem; hence, a recurrence outside the field of irradiation should not be a problem. 2) The surrounding normal tissue (nerve tissue) is a non-dividing system; tumor cells should theoretically, therefore, be more radiosensitive. However, the invariable site of failure following radiation therapy is within the field of radiation in patients with glioblastoma multiforme.

In an effort to improve the results, as the authors have noted, various approaches have been initiated—hyperbaric oxygen, chemical radiosensitizers, high linear energy transfer (LET) radiation, adjuvant chemotherapy, and immunotherapy. Unfortunately, most of these efforts have not been very successful, but considering the effectiveness of treatment of any sort, prolongation of life in itself is not the sole criteria of achievement. Life must be useful and, whether or not it is going to be is an individual experience which varies greatly from patient to patient. At times the achievement of even a brief period of lucid living is very worthwhile. The inability to predict which patients would or would not benefit from postoperative radiation therapy is of little importance. However, we would hope some day to provide an answer in order to irradiate only those patients who will benefit from radiation therapy. Until then, the benefit of the doubt should be given to the patient and radiation therapy instituted as soon as possible after surgery.

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Chairman, Division of Radiation Therapy/Oncology
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Richmond VA 23298

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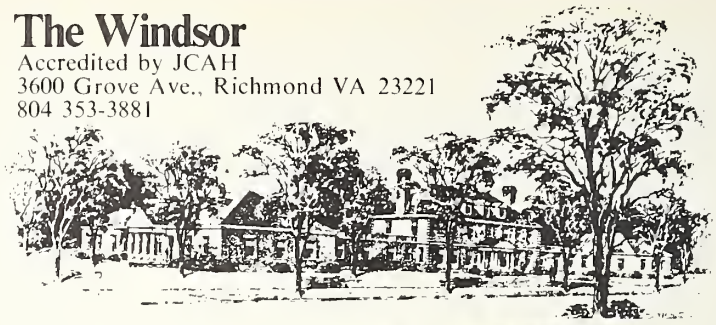


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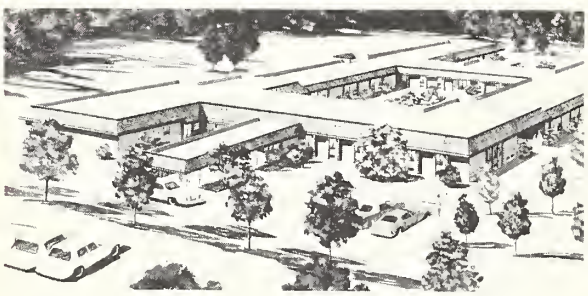
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Is Skin Cancer A Serious Disease in Virginia?

George Moore, MD, *Richmond, Virginia*

Death rates from skin cancer appear to be rising in Virginia, according to mortality data, with a sharp increase indicated in the 50-64 age group. Geographic configuration of the data suggests environmental changes, and the author sees the need for a formal study of Virginia's skin cancer mortality.

SKIN cancer is not usually considered a serious disorder. From examination of hospital tumor registries, deaths from skin cancer appear relatively few, and most persons apparently are willing to seek early medical attention for highly visible skin lesions. Thus it is surprising, that the 1975 death data for the state of Virginia disclosed 118 deaths from skin cancer. A descriptive analysis of those 1975 death certificates is here presented, as well as an attempt to correlate this information with national and state studies on mortality. No data on incidence or prevalence of skin cancer can be presented since no population-based tumor registries exist in Virginia, and the special survey[1] of incidence of skin cancer conducted by the National Cancer Institute in 1972 did not relate specifically to Virginia mortality. A search for past mortality studies in Virginia failed to disclose comparative information; however, several studies conducted in other states[2,3] were reviewed, as well as national data[4-7]. Thus, some epidemiologic comparisons can be offered.

The Virginia State Health Department provided computer printouts for 1975 death certificates, in which skin cancer could be affirmed by the certifying physician as the underlying cause of death. Malignant melanomas of the skin were coded under 172 and other malignant neoplasms of skin under 173 of the International Classification of Diseases, adapted for use in the United States. Deaths of non-Virginians were culled from the tabulations. The estimated population provided age-specific mortality rates. The Virginia population in 1975 was almost 5 million, and, for that year 118 Virginia death certificates listed skin cancer as the underlying cause of death, 31 of them non-melanomas and 87 melanomas. (In California in 1959, according to Dunn[3], in a population of 15 million there were 130 deaths from skin cancer recorded, excluding melanoma.) By race and sex, the death rate per 100,000 population for all skin cancer in Virginia in 1975 was: white males, 3.09; white females, 2.04; non-white males, 1.62; non-white females, 1.50.

Table 1 compares Virginia death rates by race and sex in 1975 to data compiled by the National Cancer Institute from 1950-1967[4] (18 years) and from 1950-1969[5] (20 years). All mortality rates have been age adjusted, using the 1960 US population as a standard. No published data on skin cancer death rates from other state or national sources could be found for comparison with the 1975 Virginia data.

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Submitted 4-6-79.

Table 1. Trends in Skin Cancer Death Rates in Virginia.

	Melanoma			Non-Melanoma		
	1950–67[1]	1950–69[2]	1975[3]	1950–67[1]	1950–69[2]	1975[3]
White Males	1.65	1.66	3.12	1.54	1.49	0.83
White Females	1.15	1.20	2.16	0.82	0.76	0.51
Nonwhite Males	0.33	0.35	0.24	0.93	0.87	1.47
Nonwhite Females	0.26	0.30	0.72	0.66	0.63	0.96

1. Average annual age adjusted mortality rate (per 100,000) for 18 years[4]
2. Average annual age adjusted mortality rate (per 100,000) for 20 years[5]
3. Age adjusted mortality rate (per 100,000) for 1975

Table 1 suggests that death rates from melanomas are steadily increasing in Virginia. In the interval between 1950-1969 and 1975, melanoma death rates among whites increased by 88%. Although statistically insignificant, death rates from melanomas also tended to rise among non-whites. Non-melanoma skin cancer death rates continued to show a declining trend among whites but a rising trend for non-whites. The percentage increase from 1950-1969 to 1975 among non-white males, for example, was 69%. By numbers of deaths, ten non-whites died from non-melanoma skin cancer in 1975, yet less than five were expected by projection of the 1950-1969 data. Table 2 illustrates this unexpected racial configuration.

Table 2. Skin Cancer Death Rates in Virginia for 1975 by Race.

	Whites	Non-whites
Melanoma	2.1 (83)	0.46 (4)
Non-Melanoma	0.54 (21)	1.15 (10)
All Skin Cancer	2.66 (104)	1.62 (14)

According to Segi et al[8], death data collected in 24 countries from 1966 through 1967 suggested that the United States had the fourth highest reported skin cancer death rate in white males, ranking only below Australia, South Africa and New Zealand. The average annual age adjusted death rate for US white males from 1966-1967 for all malignant neoplasms of the skin was 2.70.

The age distribution of skin cancer deaths in Virginia by sex and race for 1975 indicates that the age-specific death rates for melanomas aggregated by race and were higher for whites throughout all age groups. They increased with age and appeared to peak for both races at age 65-69. Thereafter, death rates for whites alone continued to rise with age. Four whites aged 85 or over died of melanomas in 1975. No deaths from melanomas occurred among non-whites past the age of 65 years. Skin cancer death rates from non-melanomas increased steadily for males and females until the 70-74 year age group; then death rates accelerated for white males. Non-white death rates, on the other hand, fell off rapidly after age 65, although non-melanoma death rates among non-whites showed a significant rise in the 55-64 year age group, higher than the rates for whites in the same age group. No deaths from non-melanoma occurred among non-whites beyond the age of 70 years.

Table 3. Skin Cancer Death Rates in Virginia for 1975 by Place of Residence of Deceased and by Race.

	Melanoma		Non-Melanoma		All Skin Cancer	
Area	White	Non-White	White	Non-White	White	Non-White
I	1.3	—	1.34	1.34	2.68	1.34
II	2.1	1.60	.44	1.60	2.50	3.21
III	2.7	.82	.60	2.47	3.29	3.29
IV	2.5	.78	.49	.33	2.95	1.55
V	1.7	—	.12	.35	1.86	.86
State	2.12	.46	.54	1.15	2.66	1.62

The remarkable trend in the 1975 data was the rise in non-melanoma death rates among non-whites in the 55-64 age group, both male and female. For males, the increase in death rates for non-whites over whites was ninefold. Non-white female death rates demonstrated a fivefold increase over white females.

Table 3 illustrates the geographic distribution of skin cancer among Virginia residents by race and place of residence, with the state divided into five geographic areas for statistical purposes. Area I comprises 24 counties of mostly mountainous Northern Virginia. Area II includes the three populous counties and cities adjacent to Washington, DC. Area III represents 29 counties of Southwestern Virginia, including Southern Appalachia. Area IV is rural Southcentral Virginia from Richmond to the North Carolina border, and Area V includes all of the Tidewater area and the Atlantic shore. In Table 3 and the two charts illustrating it, the estimated household population base is used rather than the estimated population; household population figures exclude the military, institutional groups of all kinds, and college students.

As can be seen, rates of melanoma deaths among whites were highest in Areas III and IV and non-melanoma deaths were highest in Area I. Non-melanoma death rates among non-whites were highest in Areas I, II, and III. The skin cancer mortality rate for both races was highest in Area III, Southwest Virginia (3.29). The lowest death rate was for Area V, Tidewater Virginia (1.57). The state death rate for all skin cancer and both races was 2.47.

A further analysis by districts (three to six counties each) offers more specificity on place of residence. Chart 1 shows melanoma death rates by districts. Seven districts had melanoma death rates of 3.0 or

Chart 1. Melanoma death rates per 100,000 population for 1975 by place of residence of deceased. Shaded areas indicate death rates of 3.0 and over vs. state death rate of 1.8. Districts are signified in Arabic numerals, geographic areas in Roman.

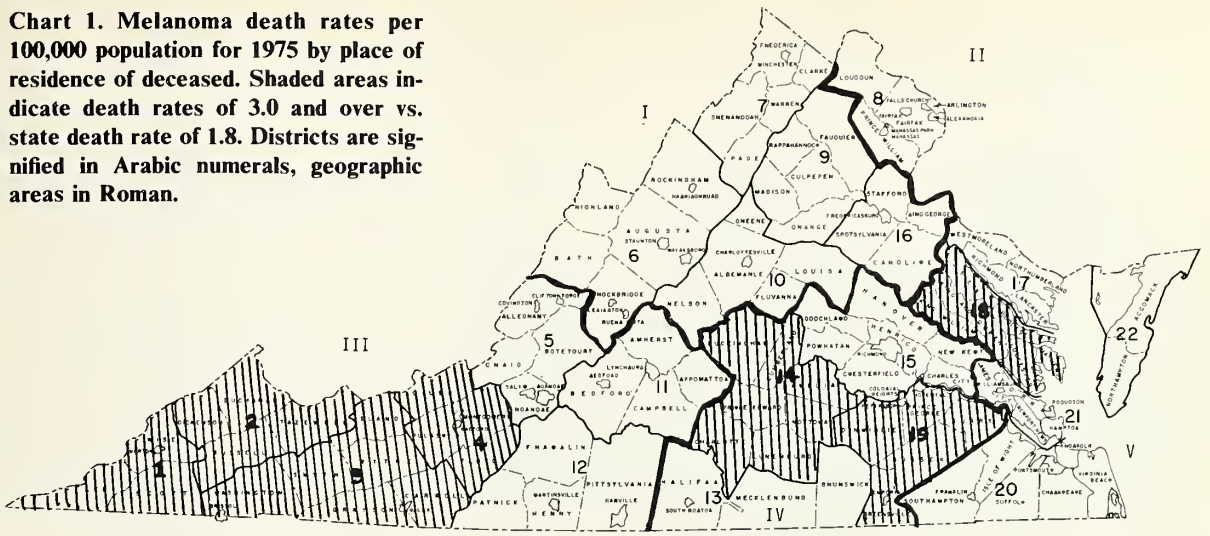
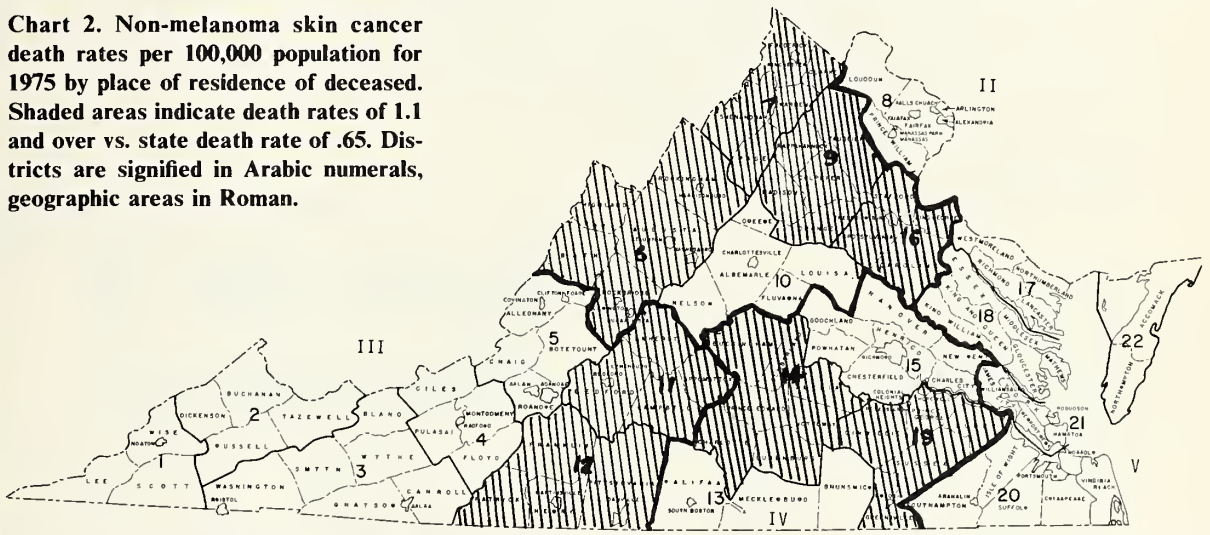


Chart 2. Non-melanoma skin cancer death rates per 100,000 population for 1975 by place of residence of deceased. Shaded areas indicate death rates of 1.1 and over vs. state death rate of .65. Districts are signified in Arabic numerals, geographic areas in Roman.



more as compared with the state melanoma death date of 1.8. These districts are shown as shaded areas on Chart 1; they are District 1, with a melanoma death rate of 3.2; District 2, 3.3; District 3, 3.1; District 4, 3.5; District 14, 3.9; District 18, 3.8, and District 19, 3.4. Melanoma deaths for whites were thus concentrated in Southwestern and Southcentral Virginia. Three out of four melanoma deaths among non-whites fell in Southcentral Virginia.

Chart 2 illustrates the pattern of non-melanoma death rates by county of residence. Eight districts had death rates from non-melanomas over 1.1 per 100,000, whereas the overall state death rate was 0.65. These districts were 6 (1.7); 7 (2.5); 9 (1.3); 11 (1.7); 12 (1.8); 14 (1.3); 16 (1.1) and 19 (1.4).

A comparison of Charts 1 and 2 is of interest. Whereas melanoma death rates were high in mountainous Southwestern Virginia, non-melanoma death rates were high in mountainous Northern Virginia. The difference in grouping for the mountainous areas of Virginia (95-98% white) was striking. Of equal interest were the high death rates for melanomas and non-melanomas in the *same* districts of Southcentral Virginia (50% white). In District 19, for example, it was noted that five out of seven persons who died of skin cancer in 1975 were listed as residents of the city of Petersburg. All of these were white and four were male. Three died of melanomas at ages 58, 67 and 68. Environmental factors would appear to be causative. Districts 10 and 15, each containing a large medical

center, appeared to show low death rates both for melanomas and non-melanomas. Death rates for non-melanomas were low in Tidewater and coastal counties and, except for District 18, were low for melanomas.

On death certificates, the site of melanoma was unspecified for 78 of the 87 recorded deaths. Among the 31 non-melanomas, 19 listed ears, face and neck as the site, six were of the trunk, two of the upper limb and four were unspecified. The sites of non-melanoma among non-whites were neck (three) and trunk (four). Three were unspecified. Ear, face and upper limb sites predominated among whites (14/20). No other clinical or pathologic information could be obtained from the death certificates.

White et al[9] collected 31 cases of skin cancer among non-whites over a period of 14 years (1947-1960) in the 500-bed Freedmen's Hospital in Washington, DC, and by histopathologic type, 11 of these were basal cell carcinoma, ten squamous cell carcinoma, four dermatofibrosarcoma, four mycosis fungoides, and two malignant melanoma. It was also noted that non-white skin cancer occurred with nearly equal frequency between the sexes and tended to appear in covered areas of the skin. Some 32% of the patients gave a history of previous trauma at the site of tumor occurrence.

Discussion

The reliability of using death data for studies of skin cancer may be questioned. Was skin cancer really the underlying cause of death? Dunn[3] reviewed 130 death certificates coded for skin cancer (excluding melanoma) in California and, given additional information by certifying physicians, a panel of dermatologists and a pathologist was able to validate only 39 certificates; 26 had died of other cancer, 3 of causes other than cancer and 3 of causes unknown, but not skin cancer. In 16 instances, information was insufficient to make a clear-cut decision. Thus, Dunn found, the true number of deaths from skin cancer was probably 40-50 rather than 130. Obviously, a careful, long-term study of individual death certificates in Virginia similar to the California effort is needed to verify observations. Analyzing validated skin cancer deaths in large numbers would provide more constructive data and possibly lead to clues in causality and prevention.

True incidence and prevalence rates of skin cancer are unknown and may not be easily determined. It is suspected that most early skin cancer is treated by non-dermatologists, generally without the benefit of microscopic examination.

Analysis of the Virginia 1975 death data offers a presumptive response to the title question. Skin cancers are creating a serious problem for the elderly. Deaths from melanoma continue to rise; and, whereas non-melanoma skin cancer deaths among whites may be decreasing, among non-whites they appear to show a rather significant trend upward since 1950-1969. Deaths by place of residence for melanomas and non-melanomas for both races suggest an inconstant but distinct environmental causality. Except for the high age adjusted death rates for non-melanomas among white females in Southwest Virginia as found in the 1950-1969 study by Mason[6,7], the 1975 Virginia configuration of death data seems to show signal geographic change.

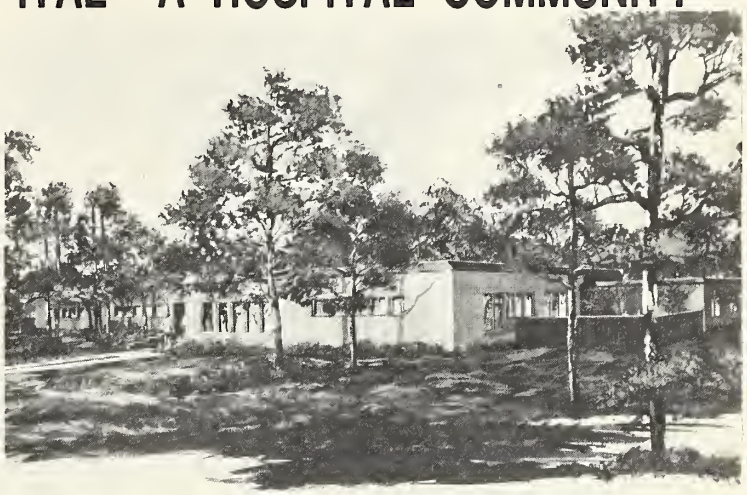
Although this analysis does not describe the extent of skin cancer incidence and frequency in Virginia, it does point to an urgent need for validating skin cancer death data. We need to properly assess the causality of skin cancer deaths and lay the groundwork for a preventive program.

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ABSTRACTS

These are abstracts of papers to be presented at the 1980 Virginia Regional Meeting of the Virginia Chapter, American College of Physicians, in conjunction with the Virginia Society of Internal Medicine, on February 16-17 at the Richmond Hyatt House. Daniel N. Mohler, MD, is program chairman.

Evidence for Reduction of Breast Cancer Incidence and Systemic Metastases by Adequate Thyroid Hormone Administration. ROBERT W. BEDINGER, MD, and ROBERT W. BEDINGER, JR., MD, *Richmond.*

This is an analysis of the incidence and patterns of occurrence of breast cancer in more than 700 women who have taken thyroid hormone for an average of 10 years.

No premenopausal breast cancer has yet developed in any compliant patient after the first year of continuous treatment. The incidence of postmenopausal breast cancer has been strikingly lower in patients receiving full replacement thyroid dosage as compared with those who have taken a lower dosage because of cardiovascular restrictions or poor compliance. Systemic metastases from new postmenopausal breast cancers in this study have thus far occurred essentially only in women with nontoxic goiter and/or clinical hypothyroidism poorly responsive to treatment with usual thyroid replacement dosage, especially when associated with high-normal or elevated pretreatment levels of circulating thyroxine (suggesting the presence of a hypothetical intracellular thyroid hormone receptor defect). No patient in this study who had previously undergone mastectomy for breast malignancy has yet had a second metachronous primary breast malignancy.

These findings provide evidence that the administration of an adequate amount of thyroid hormone may be a safe means of reducing the impact of breast cancer except in a very high risk group which may possibly be prospectively identifiable by the coincidence of preexisting fibrocystic breast disease and a syndrome closely resembling hypothyroidism with or without nontoxic goiter, but with high-normal or elevated blood thyroxine levels.

Home Glucose Monitoring and Hemoglobin Al Measurement in the Management of Juvenile Onset Diabetes Mellitus. WILLIAM S. EVANS, MD, EMILY HAUENSTEIN, RN, and STEPHEN L. POHL, MD, *Charlottesville.*

Juvenile onset diabetes mellitus continues to cause significant acute and chronic complications despite the availability of insulin for nearly 60 years. At present, this problem is thought to reflect, in part, the inadequacy of methods routinely available for administration of insulin and for assessment of control. During the past 2 years, there have been major advances in each of these areas. Home glucose monitoring is a procedure which allows frequent assessment of plasma glucose levels. Patients are given a portable instrument which they use to measure glucose in capillary blood up to 20 times per day. With the assistance of a physician and a nurse, they use the data obtained to determine the doses of multiple daily insulin injections. Hemoglobin Al is a chromatographic fraction which reflects non-enzymatic glycosylation of hemoglobin A. The amount of hemoglobin Al expressed as per cent of the total hemoglobin is a measure of plasma glucose averaged over 1-2 months and is, therefore, an index of long-term control. We have tested these methods in 3 patients for periods of 3-5 months measuring hemoglobin A1 before and after.

	before	*after*
PM	14.0	8.3
MJ	14.3	9.7
TT	16.5	10.6

Conclusion: Home glucose monitoring and hemoglobin A1 are important new methods for practical management of juvenile onset diabetes mellitus.

Production of an Antibody to the Insulin Receptor and Insulin Resistance Resulting from an Immunologic Response to Malignancy? WILLIAM G. BLACKARD, MD, *Richmond.*

A 65-year-old female with severe insulin resistance resulting from an antibody to the insulin receptor has been observed over a 5-year period. At the onset of her insulin resistant state, an axillary node biopsy revealed adenocarcinoma without any obvious primary site. Over the next 3 years her insulin resistant state went into remission with a complete disappearance of antibody to the insulin receptor. No further evidence of malignancy has occurred over the 5-year period. We hypothesize that tumor antigens stimulated antibody production which destroyed the tumor. The

antibody thus formed reacted with parts of normal tissue cell membranes which either contained the insulin receptor or were adjacent to the insulin receptor resulting in the insulin resistant state. Disappearance of the tumor and loss of the hypothetical immunizing antigens led to disappearance of the antibody to the insulin receptor and remission of the insulin resistant state. In vitro studies indicate reduced antibody binding to cells whose insulin receptors have been down regulated. This finding suggests that the antibody inhibits insulin binding by attaching to the specific insulin receptor rather than to an adjacent macromolecule. The observation also serves as additional evidence for "down regulation" of insulin receptors.

Multiple Use of Disposable Insulin Syringe-Needle Units. ROBERT H. HODGE, JR., MD, LINDA KRONGAARD, RN, MERLE A. SANDE, MD, and DONALD KAISER, DRPH, *Charlottesville.*

Fourteen insulin dependent diabetics were asked to use their insulin syringe-needle units three times in succession to determine the efficacy and safety of this practice. Prior to the study, insulin containers were injected with 10^6 CFU's of *S aureus* to determine if a potential reservoir of pathogens could exist. No bacterial growth was observed at 48 hours. The mean duration of time each patient participated in the study was 20.4 weeks and a total of 2000 injections were taken. No signs of infections at the injection site were observed. Twenty-five syringe-needle units were collected after use and cultured for pathogens. No bacterial growth was observed. Although the actual rate of infection cannot be determined from the sample, 0 infections in 2000 injections suggest a rate of less than 1% at the 0.05 confidence level. Multiple use of disposable insulin syringe-needle units appears to be safe and cost-beneficial.

Galactorrhea-Amenorrhea Syndrome: Followup Studies in 42 Patients Following Pituitary Tumor Removal. H. ST. GEORGE TUCKER, MD, STEPHEN R. GRUBB, MD, JAMES P. WIGAND, MD, ALAIN J. RAYLON, MD, HARVEY V. LANKFORD, MD, WILLIAM G. BLACKARD, MD, and DONALD P. BECKER, MD, *Richmond.*

Forty-two women with galactorrhea-amenorrhea had trans-sphenoidal removal of pituitary prolactinomas. Follow-up is 6 months to 8 years. Plasma prolactin (Prl) was reduced to normal and remained so in 23/27 (86%) with microadenomas, in 5/8 (63%) with enclosed adenomas > 1 cm diameter, in 1/4 with locally invasive adenomas, in 0/3 with diffusely invasive adenomas. Galactorrhea ceased in 25/36. Regular menses returned in 25/39. 15 pregnancies occurred in 12 patients. 6 patients with Prl normal 1 week postop showed subsequent rise, but no patient with Prl normal 6 months postop showed later rise. No major complications occurred. 1 patient developed hypopituitarism. With subsequent pregnancies Prl rose normally but fell to baseline after delivery. 5 patients with postop Prl > 100 ng/ml received irradiation, which lowered Prl. Preop tests showed blunted Prl response (< 100% rise) to chlorpromazine (CPZ) in 12/12, to TRH in 18/21, to insulin hypoglycemia in 33/36. Patients with Prl normal 2-4 months postop showed normal Prl response to TRH in 13/18, but still blunted response to CPZ in 5/5 and to hypoglycemia in 17/20. Data suggests persisting inhibition of hypothalmic mechanisms stimulating Prl secretion but not of pituitary lactotropes up to 4 months postop. Diagnostic criteria, indications for surgery will be discussed.

Prognostic Significance of Resting Anterior Thallium-201 Defects in Patients with Inferior Myocardial Infarction. ROBERT S. GIBSON, MD, GEORGE J. TAYLOR, MD, DENNY D. WATSON, PHD, BRUCE C. BERGER, MD, RANDOLPH P. MARTIN, MD, RICHARD S. CRAMPTON, MD, and GEORGE A. BELLER, MD, *Charlottesville.*

Patients (pts) with inferior myocardial infarction (IMI) and associated left anterior descending (LAD) coronary artery disease (CAD) may be at increased risk for subsequent cardiac events (CE). To determine if ^{201}Tl scintigraphy after IMI can predict subsequent CE, 25 pts with enzymatic and ECG criteria for transmural IMI underwent serial imaging with computer quantitation at rest 7-35 days (mean 11.9) after hospital admission. All 25 pts had persistent inferior (INF) defects, whereas 13 (52%) also had anterior (ANT) defects consistent with LAD disease. Ten showed anterior wall rest redistribution and 3 had persistent ANT defects. Pts were divided into Group I (G-I) (INF and ANT defects) and G-II (INF defects alone) and the number of CE recorded over an average 7.2 month follow up (range 3-9 months). CE included sudden death (SD), reinfarction, angina and heart failure (CHF). Ten of 13 pts (77%) in G-I had 17 CE compared with 4/12 (33%) in G-II who had only 6 CE ($p < 0.02$). Nine pts in G-I vs 3 in G-II developed angina ($p < 0.03$). Although not statistically significant there was an increased prevalence of SD (8% vs 0%) and CHF (46% vs 25%) in G-I.

In conclusion, rest ^{201}Tl scintigraphy with computer quantitation is 1) highly sensitive for detection of transmural IMI even in the late hospital phase and 2) by detecting ANT wall hypoperfusion at rest, can identify those pts with IMI at high risk for sub-

sequent cardiac events, presumably due to LAD disease.

Improved Myocardial Perfusion and Function Following Percutaneous Transluminal Coronary Angioplasty. MICHAEL J. COWLEY, MD, and GEORGE W. VETROVEC, MD, *Richmond,* and KENNETH M. KENT, MD, DOUGLAS R. ROSING, MD, and STEPHEN E. EPSTEIN, MD, *Bethesda, Maryland.*

Percutaneous transluminal coronary angioplasty (PTCA) may offer a non-operative method to increase coronary blood flow by balloon dilatation of stenotic lesions. Symptomatic improvement following PTCA has been documented but the effects on ventricular function are less clear. Seven patients with 1 or 2 vessel coronary artery disease undergoing PTCA had rest and exercise gated radionuclide angiography (RA) and rest and exercise thallium-201 myocardial imaging (TMI) before and after PTCA. The lesion was traversed and dilated in all 7 patients without complications. Mean % stenosis decreased from 84 ± 3% to 43 ± 3% after PTCA ($p < .01$), and mean coronary pressure gradient was reduced from 61 ± 3 mm Hg to 25 ± 3 mmHg ($p < .01$). Following PTCA, duration of graded exercise time increased from 8.8 ± 3 min to 21.1 ± 2 min ($p < .01$), and maximum heart rate achieved at peak exercise increased from 122 ± 13 to 165 ± 10 beats/min ($p < .05$). Four of 7 patients exhibited reversible TMI defects before PTCA; all 4 had normalization following PTCA. RA was performed both before and after PTCA in 5 patients; mean exercise ejection fraction increased from 53 ± 3% to 63 ± 2% ($p < .05$) following PTCA.

Conclusion: PTCA can provide significant reduction in trans-stenotic coronary pressure gradient and severity of stenosis, and successful PTCA is associated with: 1) improved myocardial perfusion assessed by thallium-201 myocardial imaging, and 2) improved myocardial function determined by duration of exercise, maximum heart rate achieved at peak exercise, and increase in exercise ejection fraction.

The Safety and Value of Exercise Testing Soon After Coronary Artery Bypass Surgery. CARL W. HARTMAN, MD, ALAN G. BARTEL, MD, THOMAS D. GALL, MD, JANET MCCRACKEN, LPN, and ROSE BURROUGHS, RN, *Norfolk.*

Low level exercise stress testing was performed on 170 patients (pts.) between August of 1976 and December of 1978, testing an average of 3 to 4 weeks following coronary artery bypass surgery (CABS). A modified Bruce protocol was utilized and a target of 70 to 75% of their maximum age predicted heart rate was used as the preferred end point. Of the 170 pts. 19 (11%) were women. The average age of the female pts. was 55 and in the male (pts.) 54. A total of 6 pts. underwent concurrent left ventricular surgery or valve replacement. Seventy-six pts. (45%) had suffered an old myocardial infarction. Cardiac catheterization documented three vessel coronary artery disease in 108 pts., two vessel coronary disease in 41 pts., and one vessel disease in 17 (pts.). All pts. began participation in an outpatient cardiac rehabilitation program shortly after their exercise test.

There were no deaths or significant complications related to the stress testing procedure. A total of 37 pts. (22%) demonstrated significant atrial or ventricular arrhythmias during testing. Eleven pts. (6%) required the immediate institution of an appropriate antiarrhythmic agent. Ten pts. (6%) displayed a positive ischemic response during stress. Four pts. were noted to display a hypertensive response to stress and appropriate antihypertensive medication was begun.

Low level exercise stress testing appears to be a safe and useful tool in the assessment of the post-CABS pt. in the early postoperative period. Valuable information was gained and therapy altered in 30% of pts. tested.

Relationship of Angiographically Determined Coronary Artery Disease Severity with High Density Lipoprotein Levels. GEORGE W. VETROVEC, MD, WILLIAM C. BUHRMAN, JOHN D. QUINN, MD, and MICHAEL J. COWLEY, MD, *Richmond.*

Epidemiologic studies suggest an inverse correlation between symptomatic coronary disease (CD) and high density lipoprotein cholesterol (HDL). To determine if this relationship also exists between the severity of angiographic coronary disease (SACD) and HDL levels, 134 patients excluding those on lipid lowering agents or Insulin were analyzed utilizing a numerical grading system to score the severity of coronary lesions for each of 4 major vessels and a composite value for all vessels on each angiogram. Twenty-nine patients (pts) had no CD (mean HDL 57.8 mg/dl) and 105 had various degrees of CD (mean HDL 49.5 mg/dl). SACD inversely correlated significantly with HDL for total vessel severity ($r = -0.24$; $p \leq 0.005$), for left anterior descending ($r = -0.22$; $p \leq 0.02$), for circumflex ($r = -0.25$; $p \leq 0.005$) and right coronary ($r = -0.19$; $p \leq 0.04$) but not for left main disease ($r = -0.03$; $p \leq 0.76$).

A subset of 42 pts who underwent treadmill exercise testing showed no significant relationship between HDL and exercise performance expressed in Mets, treadmill time or percent maximum heart rate achieved.

In conclusion (1) a significant inverse correlation

exists between HDL and SACD; (2) however, HDL, does not precisely predict SACD in individual pts.; (3) HDL is not a predictor of left main disease; (4) HDL is unrelated to treadmill exercise performance.

Efficacy of Disopyramide Phosphate in the Treatment of Refractory Ventricular Arrhythmias. DAVID G. MEYERS, MD, and SYED M. MOHIUDDAN, MD, *Omaha, Nebraska.*

We administered oral disopyramide phosphate (DP) to patients (pts) with refractory ventricular arrhythmias to evaluate its efficacy. Seven male patients between ages 54 and 71 (average 62) with hypertensive heart disease, chronic coronary insufficiency, or acute myocardial infarction were admitted with symptomatic PVCs or ventricular tachycardia after demonstrating either refractoriness or intolerance to combinations of multiple antiarrhythmic agents. A 300 mg oral loading dose of DP was followed by 100 mg orally every 6 hours and increased at varying intervals until a satisfactory response was observed or a dose of 200 mg every 6 hours was reached. Each arrhythmia was quantified before and after DP therapy. Total number of PVCs were reduced in 6 patients. Four patients experienced reductions in grade of PVCs. The total number per hour of each grade of PVC was multiplied by a factor (1.0-unifocal, 1.5-multi-focal, 2.0-paired, 3.0-ventricular tachycardia) to derive a score. There was a mean decrease in score of 218.5 ($p < 0.01$). This study demonstrated the efficacy of DP in reducing total numbers and complex PVCs in patients refractory to or intolerant of other anti-arrhythmic agents. Theoretically, electro-physiologic characteristics may be explained by difference in their physical chemical properties.

An Analysis of Malfunction and Complications of Temporary Pacing. JOSEPH L. AUSTIN, MD, LEHMAN K. PREIS, MD, RICHARD S. CRAMPTON, MD, and RANDOLPH P. MARTIN, MD, *Charlottesville.*

Temporary pacing is a common treatment for brady-arrhythmias, but few studies have dealt with pacer malfunction (MF) and complications. We reviewed the medical records of 100 consecutive patients (pts) who received 113 temporary pacemakers (PM). MF was defined as failure to capture and/or sense, and occurred in 37% (42/113) of PM. The initial MF occurred within 48 hrs in 86% (36/42) and within 24 hrs in 50% (21/42). The incidence of MF was 35% (32/91) in femoral catheters and 42%(8/19) in brachial (p = not significant (NS)). In pts with acute myocardial infarction (AMI) 50% (9/18) of PM developed MF vs 35% (33/95) of PM in pts without AMI(NS). Thirty-seven complications occurred in 20% (23/113) of PM: ventricular tachycardia during insertion; 7, bleeding or hematoma at the site: 4, fever: 7, sepsis: 3, phlebitis: 6, local infection: 3, and pulmonary embolus (PE): 3. No deaths resulted from these complications. In pts with AMI, 28% (5/18) of PM produced complications vs 19% (18/95) of PM in pts without AMI(NS). While the incidence of total complications, especially perforation, was significantly higher in brachial (7/19) vs femoral (16/91) PM ($p < .05$, sepsis, local infection, and PE were seen only in femoral PM. In all pts with sepsis, local infection, and PE, and in 5/6 pts with phlebitis, the PM were in place $\leq$ 72 hrs ($p < .0005$). We conclude: 1) Since MF is common after pacemaker insertion and tends to occur early, close monitoring is advisable. 2) The incidence of MF does not seem influenced by site of insertion or presence of AMI. 3) Complications are also not infrequent and in pts prone to thromboembolism and/or infection, sites other than femoral should be considered. It may be advisable to terminate temporary pacing by 72 hrs whenever possible.

Ankylosing Spondylitis and Aortic Incompetence. SHAHEDA QAIYUMI, MD, ZUBAIR U. HASSAN, MD, and ELAM C. TOONE, MD, *Richmond.*

This is an initial report of a prospective study we are conducting in order to determine the incidence of ankylosing spondylitis (AS) in consecutive unselected cases of lone aortic incompetence (AI). Over the past 25 years the relationship of AS and its variants with aortitis, AI, and cardiac conduction defects has become well recognized. However, the two previous studies reporting the incidence of AS in larger series of cases of AI relied on relatively insensitive methods for detection of AS available at that time and reported a very low incidence. Since then the finding of close association of HLA-B27 antigen with AS and the recognition of lateral ligament calcification in the dorsolumbar spine of these patients has considerably enhanced our ability to diagnose AS. Concomitantly, cardiovascular syphilis and rheumatic heart disease, which were previously the most common causes of aortic incompetence, have been receding in frequency.

We are studying all patients with aortic insufficiency confirmed by echocardiography or cardiac catheterization. The ancillary studies in addition to a complete clinical examination include serological tests for syphilis, rheumatoid factor, HLA-B27 antigen, x-rays of the spine and pelvis and a pathological study of the valve and aorta when available following aortic valve surgery or autopsy.

Among 13 cases of AI examined to date, we have found three cases of ankylosing spondylitis. The incidence of ankylosing spondylitis among cases of lone AI seen today may be higher than realized.

Previously Unreported Case of Acute Cardiomyopathy Secondary to Intravenous Amphetamine Abuse. JOSEPH HARTNECK, MD, and THOMAS D. CALL, MD, *Norfolk.*

We present and describe a previously unreported case of acute cardiomyopathy secondary to intravenous amphetamine abuse. A 22-year-old white female with no previous history of heart disease presented 10-12 hours after IV amphetamine injection with circulatory collapse, and had clinical and x-ray evidence of acute pulmonary edema. Initial lab data revealed evidence of cardiac necrosis, with elevated CPK-MB. Immediate Swan-Ganz catheterization revealed an elevated pulmonary capillary wedge pressure of 20-23, and subsequent full right and left heart cath, within the first 72 hrs, demonstrated diffuse left ventricular hypocontractility with poor LV function, mild mitral regurgitation, and normal coronary arteries. Mitral valve prolapse was seen on echocardiography.

While cardiomyopathy has been reported with chronic oral amphetamine use, this case documents an acute cardiotoxic effect of IV amphetamine abuse. The mechanism of this action is probably similar to other known conditions involving catecholamine excess, although a cardiotoxic effect of the illicit cutting agent cannot be absolutely excluded. Therefore, we conclude the acute myocardial damage as a potential side effect should be sought in cases of IV amphetamine abuse.

A Rational Approach to Carotid Sinus Syndrome. JOHN H. COOK III, MD, GEORGE A. BELLER, MD, and LYNN D. KRAMER, MD, *Charlottesville.*

The carotid sinus syndrome is defined as syncope associated with carotid sinus (CS) hypersensitivity, Pressure on the CS, without occlusion of the artery, causes a relfex stimulation of the brain stem cardioinhibitory and vasomotor centers. Hypersensitivity of reflex causes syncope, most commonly by prolonged asystole, less commonly by a depressor response and rarely by a yet underdetermined cerebral mechanism. Mixture of the responses have also been described.

Diagnostic workup of the patient with suspected CS syndrome follows a logical progression. A mass lesion, significant cerebrovascular and carotid artery disease are first excluded. Demonstration of the CS syndrome is made with the patient seated comfortably in the catheterization laboratory under continuous ECG, EEG and arterial blood pressure monitoring with a transvenous demand pacemaker in place. Syncope is reproduced by gentle massage of the CS. If syncope occurs without significant asystole, or in a second trial with the pacemaker operating, then the depressor or cerebral mechanism predominant. Absence of syncope with CS massage after precutaneous anesthesia of the CS with 1% lidocaine is the confirmatory maneuver. Demonstration of this evaluation in a patient with the cerebral mechanism will be described.

Treatment is by implantation of a demand pacemaker (cardioinhibitory type) or by surgical denervation of the CS (vasodepressor type).

Comparison of Two-Dimensional Echocardiography, Gated Heart Pool Scan, and Left Ventriculography in the Detection of Regional Wall Motion Abnormalities. R. BRAD STAMM, MD, DENNY WATSON, PHD, GEORGE TAYLOR, MD, GEORGE BELLER, MD, and RANDOLPH P. MARTIN, MD, *Charlottesville.*

In order to compare the detection of wall motion abnormalities (WMA) by two-dimensional echo (2DE) and multiple gated heart pool scan (MUGA), nine coronary and five noncoronary patients were evaluated with 2DE, MUGA, and left ventriculogram (LVG). The heart was divided into seven segments: anterior base, anterior, apex, distal inferior, proximal inferior, septal, and lateral. The analysis was repeated upon five segments by combining the two anterior segments and two inferior segments into one segment each. In patients with RAO-LVG only septal and lateral segments were excluded. One 2DE was inadequate for evaluation and one MUGA was eliminated due to excessive time between studies. Comparison of 2DE and MUGA with LVG revealed:

	Segs	*Normal/ LVG Normal*	*Hypokinetic/ LVG Hypokin*	*A-Dyskinetic/ LVG A-Dyskin*
2DE	7	17/21 (81%)	23/26 (88%)	13/14 (93%)
	5	6/8 (75%)	14/15 (93%)	14/14 (100%)
MUGA	7	21/21 (100%)	17/26 (65%)	8/12 (67%)
	5	8/8 (100%)	12/13 (92%)	10/12 (83%)

Four WMA were seen on 2DE, but not on LVG. Most of the discrepancy between WMA as seen by 2DE and LVG occurred at the anterior base, while MUGA and LVG differences most often occurred inferiorly. We conclude: 1) When five segments are analyzed for WMA, 2DE and MUGA's are both able to detect WMA as seen on LVG. 2) 2DE appears to give better localization of wall motion abnormalities as seen by the comparison of the seven-segment analysis with LVG. Hence, 2DE appears to be a reliable

method to detect segmental and subsegmental WMA.

Lung Gallium Scan and Elevated Serum Ace Levels in Non-Sarcoidal Conditions. HARRISON W. FARBER, MD, JAMES A. L. MATHERS, JR., MD, and FREDERICK L. GLAUSER, MD, *Richmond.*

Gallium scanning and serum angiotensin converting enzyme levels have been used in the evaluation of sarcoidosis and other pulmonary diseases. However, Nosal et al have shown that when the two tests are combined, positive results in both yield a 99% diagnostic specificity for sarcoidosis. During the past six months, we have seen two patients, each of whom had a positive gallium scan and a markedly elevated serum angiotensin converting enzyme level; however, neither patient had sarcoidosis. One patient had biopsy proven talc granulomatosis secondary to intravenous pentazocine abuse and the other had biopsy proven lymphocytic interstitial pneumonitis. Thus, although the combination of gallium scan and serum ACE level is extremely specific for sarcoidosis, it is important to realize that this combination can be positive in other entities. Both patients also showed no response to steroid therapy.

Myxedema Ascites—Case Report and Review of the Literature. J. A. THOMPSON III, MD, R. L. CARITHERS, JR., MD, and H. J. FALLON, MD, *Richmond.*

A 27-year-old black female presented with ascites for which no cause was found despite numerous investigations and a laparotomy. Thyroid function tests eventually revealed hypothyroidism; the ascites disappeared after treatment with thyroxine. A review of the literature since 1918 reveals that 35 cases have been reported. Our patient typifies the general experience with this condition in that patients usually have high protein ascites, a long delay in diagnosis, and improvement with thyroxine. Our patient is unique in that the right atrial pressure was normal suggesting that congestive heart failure is not the cause of the ascites.

The Use of 99TC Sulfur-Colloid Scan for Detection of Renal Transplant Rejection. A Histopathologic Correlation. DANIEL SANTACRUZ, MD, EDUARDO G. BECKER, MARVIN M. GOLDBERG, MD, and DUANE G. WOMBOLT, MD, *Norfolk.*

To determine the clinical usefulness of 99Tc-colloid scan (SCS) in detecting renal transplant rejection, 43 patients were reviewed. Seventy-seven scans were available. The pelvic lumbar spine bone uptake was compared to graft uptake; graft more than bone = "P+" graft equal bone = "P" and graft < bone = "N". "P+" SCS were associated with clinical rejection in 26/27 studies, 24/31 "P" SCS were associated with rejection whereas only 7/19 "N" SCS were associated with clinical rejection. SCS were correlated with the histopathologic finding of biopsies and/or transplant nephrectomies. Of those that had "P+" SCS 15 of 16 revealed humoral or mixed humoral and cellular rejection. 10 of 12 with "P" SCS revealed the same histologic findings. Of those biopsies showing only cellular rejection (4) 3 had negative "N" SCS and one "P". Four grps of patients were defined clinically:

Grp. I (8 pts.) those with normal graft function.
Grp. II (18 pts.) rejection with response to therapy.
Grp. III (13 pts.) rejection with failure to respond.
Grp IV (4 pts.) ATN with a typical clinical course.

Grp.	*#SCS*	*"P+"*	*"P"*	*"N"*	*H*	*H&C*	*C*	*ATN*
I	13	1	2	10	0	0	0	0
II	36	17	15	4	8	8	2	0
III	21	9	9	3	5	6	2	0
IV	7	0	5	2	0	0	2	2
Total	77	27	31	19	13	14	6	2

None of 7 patients with clinical ATN had "P+" SCS, however 5 had "P". Of these 5, 4 never functioned and had graft loss. We conclude that SCS does correlate well with clinical rejection episodes as well as with histologic evidence of rejection primarily of humoral type. It does not predict final outcome of the graft nor response to treatment for rejection.

Right Bundle Branch Block Preceding Clinical Pulmonary Embolism. C. S. MURALIDHARAN, MD, S. BALAKRISHNAN, MD, and JAMES P. BAKER, MD, *Norfolk.*

The protean manifestations including the "classic" electrocardiographic changes *following* pulmonary thrombo-embolism are well documented. In this paper we present a 68-year-old female patient in whom a Holter monitor recorded sinus tachycardia and right bundle branch block 2½ hrs *before* the onset of symptoms and other signs of acute pulmonary embolism. The pulmonary was confirmed by a ventilation perfusion scan. To the best of our knowledge the appearance of right bundle branch block preceding the onset of clinical pulmonary thromboembolism has not been reported.

The Catabolism of C3b by Polymorphic Nuclear Leukocytes. HAYES WILLIS, MD, DAN CONRAD, MD, and SHAUN RUDDY, MD, *Richmond.*

The major intermediate of C2, C3b, serves as an opsonin for polymorphic leukocytes. We sought to determine the fate of C3b on immune complexes interacting with PMN. Immunofluorescence staining

techniques, radioisotope labeling techniques, and SDS- polyacrylamide gel electrophoresis techniques were used to analyze C3b and breakdown products after interaction with PMNs under various conditions. Catabolism of C3b to inactive forms was noted to occur when C3b coated imune complexes were ingested. But some degradation was noted in C3b that was not phagocatized. C3b enhances phagocytosis of immune complexes and IgG coated particles, but as a result the C3b is inactivated. This C3b inactivation may contribute to controlling the inflammatory process.

Myopathic Paralysis Secondary to Acute Alcoholism. JOSEPH J. WARNER, MD, EMORY ROBINETTE, MD, GEORGE ELSASSER, MD, and HERSCHEL ESTEP, MD, *Norfolk.*

Myopathic changes including elevation of CPK are frequently seen in acute and chronic alcoholism. Although the patients previously described were asymptomatic, we investigated a patient who was admitted with profound muscle weakness of all extremities following an acute bout of alcoholism. His initial serum enzyme values were CPK-306,080 (normal: < 225) with both muscle (MM) and cardiac (MB) fractions elevated. The SGOT was 8320 (normal: < 40) iU and the LDH was 9060 (normal: 50-200) U/L. Although alert, oriented and otherwise normally responsive he was too weak to walk or to feed himself. The EMG and nerve conduction studies excluded neuropathy but were compatible with a myopathic process. The latter was confirmed by light and electronic micrographic studies of a deltoid muscle biopsy, which showed rhabdomyolysis as well as ultrastructural changes consistent with alcoholic myopathy. With an ordinary hospital diet plus multivitamins he had remarkable improvement to near normal strength after 10 days. At the same time the CPK, LDH and SGOT also returned to only slightly elevated values and spirometric performance improved significantly. The initial serum CPK in this case was far in excess of the levels commonly seen in patients with myocardial infarction or other skeletal myopathic disorders.

Conclusion: Severe myopathic damage may result from even a short period of alcoholic abuse. Under these conditions, the picture may resemble a primary myopathy. ■

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Hemodialysis in Children: A 12-Months' Experience

James C. M. Chan, MD, *Richmond, Virginia*

IN THE pediatric hemodialysis unit at the Medical College of Virginia, the rate of patient accrual in 1978 was markedly higher than nation-wide studies have projected. This article analyzes patient accrual at the unit and offers an explanation for its higher rate.

The criteria for entering the pediatric hemodialysis unit at the Medical College of Virginia are irreversible renal failure, severe hypertension, and kidney allograft rejection. All patients under the age of 17 years meeting one of these specifications and entering the unit from January to December 1978 were studied. On admission, the duration of known renal disease and the averaged pre-dialysis body weight were recorded.

A total of nine patients were admitted to the program over the 12-month period. They varied in age from 5 to 15 years. Five were female, four were male. Five were white, four were black. The primary renal diseases of these patients were renal tubular acidosis (1), obstructive uropathy (1), membranoproliferative nephritis (1), chronic pyelonephritis (1), focal glomerulonephritis (1), lupus nephritis (2), and chronic glomerulonephritis (2). The know duration of these diseases varied from five days to ten years (average 6 years).

As for weight, two of the nine patients weighed only 16 kilograms and required modifications of the blood-lines and dialyzers to limit extra-corporal circulation to less than 10% of the total blood volume (i.e., 128 ml).

Six of the children were from Richmond, one each from Bergton, Schuyler and Fredericksburg. The latter three were dialyzed after their allograft rejections became irreversible and were discharged to continue hemodialysis at facilities closer to their homes.

A total of 568 dialysis procedures were performed in these children over the 12-month period, and six of the nine patients received at least one cadaveric kidney allograft while in the unit during the period studied. With such a high rate of renal transplantation, many of the late complications[1] of long-term hemodialysis in children were not observed. The only problem encountered was occasional hypotension on ultra-filtration.

Figure 1 shows the rate of accrual of these patients and compares it with a previous experience in another new pediatric hemodialysis unit in Washington DC, a city of about five times the population of Richmond; this unit is in a children's hospital of 200 beds and competes with another, established pediatric dialysis unit in Washington.[1,2] Note that the rates are nearly identical.

Studies in the literature have projected an accrual rate of two to six patients per year per million general population[3,4]; the patient accrual rate at both the Medical College of Virginia unit and the Washington unit of comparison are markedly in excess of these projections. A greater public awareness of the

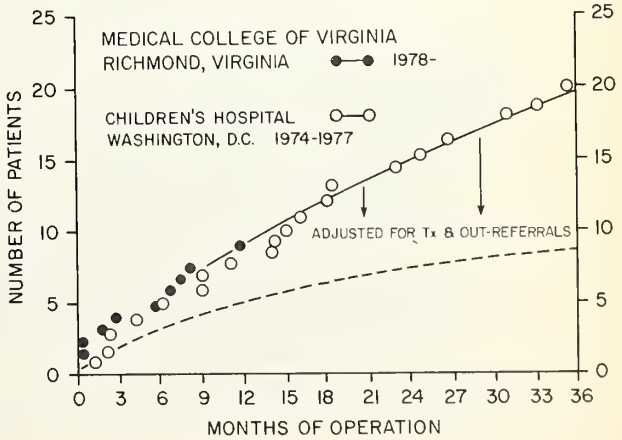


Fig. 1. Note almost identical rate of patient accrual in Medical College of Virginia's pediatric hemodialysis unit and another unit in city five-fold larger in population than Richmond. Interrupted line shows accrual rate adjusted for transplantation and out-referrals.

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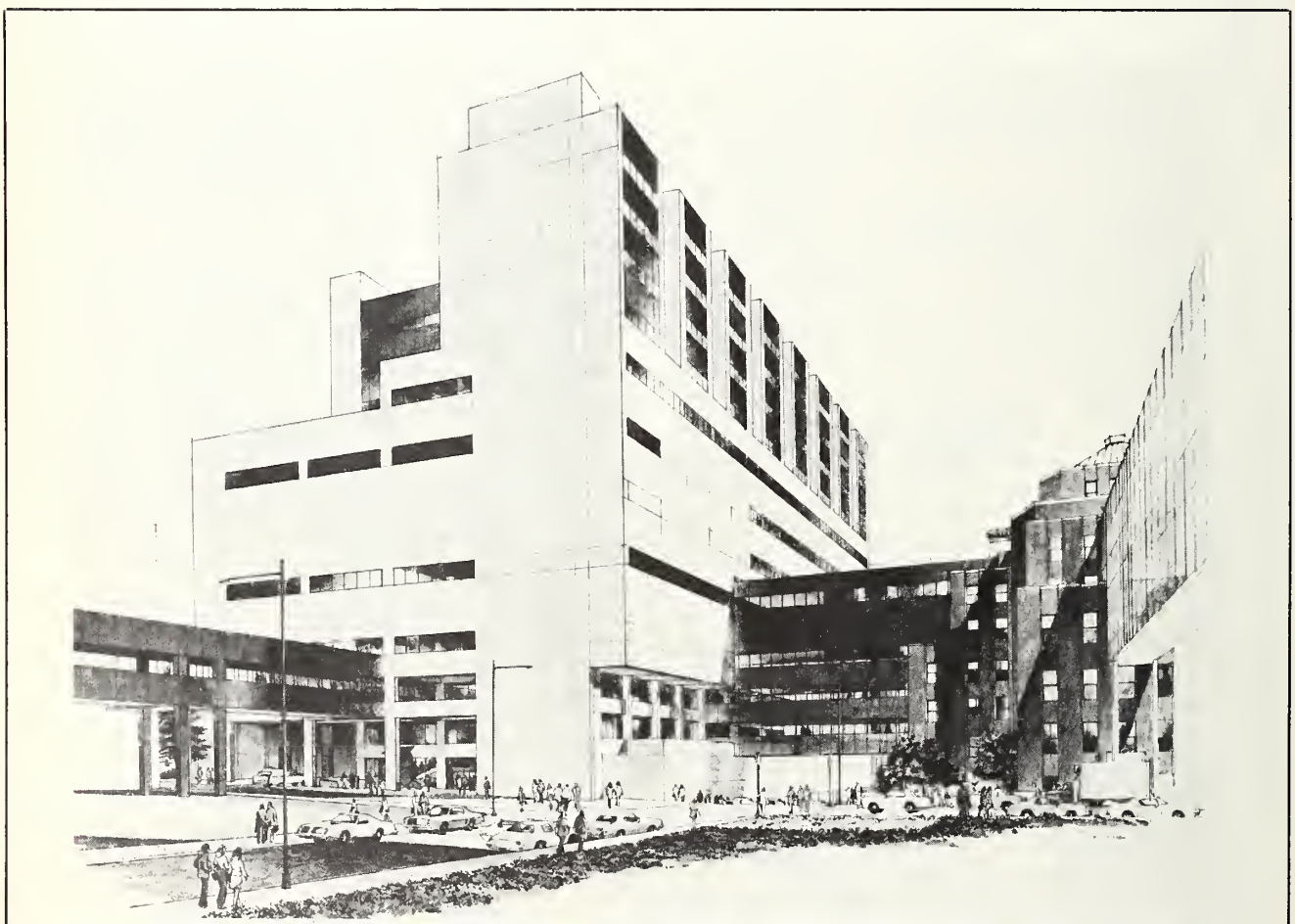
Submitted 2-14-79.

availability of transplantation and dialysis may have accounted at least partly for the higher accrual rates. And the availability of financial assistance for hemodialysis patients, through Public Law HR-1 passed by Congress in 1973, has undoubtedly brought more patients into dialysis programs.

Children with chronic renal failure on hemodialysis usually do not grow well, but this problem is being met at the Medical College of Virginia unit with a new drug regimen of vitamin D metabolites, which yield accelerated growth velocities[5,6] in these children. The beneficial drugs are 1-alpha-vitamin D and 1-25-vitamin D. All patients in the MCV pediatric hemodialysis unit are now receiving these metabolites.

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Architect's rendering of the 537-bed hospital under construction on the campus of the Medical College of Virginia/Virginia Commonwealth University in downtown Richmond. It is scheduled for completion in mid-1981.

Incidence of Acute Renal Failure In Alcoholic Pancreatitis

Thomas L. Moffatt, MD, *Charleston, South Carolina*

DESPITE frequent mention as a complication of pancreatitis (0.38%[1] to 78%[2] of published series), renal failure seemed uncommon among pancreatitis patients at a Veterans Administration Hospital. A discrepancy existed between the etiologies of the pancreatitis in the reported cases (primarily British and/or surgical series with a bias toward traumatic and biliary system etiologies) and the primarily alcoholic etiology in the patients admitted to the Veterans Administration Hospital. A review of charts over a 2-year period was undertaken which revealed no documented acute renal failure among 71 cases of alcoholic pancreatitis.

Patients and Methods

In the 2-year period of study (January 1974 - December 1975), 100 cases (80 patients) were discharged from the Richmond, Virginia, Veterans Administration Hospital with a diagnosis of pancreatitis. In an effort to make this a better-defined, more homogeneous group, the restrictions below were imposed.

The diagnosis of alcoholic pancreatitis required: a clinical presentation with nausea, abdominal pain and tenderness; an elevated serum or urine amylase; a history of active alcoholism as evaluated by the admitting housestaff; the absence of a history of recent abdominal trauma or surgery; and a gallbladder series, if done, that was entirely within normal limits.

The diagnosis of acute renal failure required the absence of prior renal disease along with elevations of BUN and creatinine unresponsive to hydration.

After the above restrictions were applied, it was found that of the original 100 cases, only 71 cases fit the criteria for alcoholic pancreatitis and were ultimately evaluated.

Results

Of 71 cases, none developed acute renal failure. Although 13 cases (18.3%) had initial BUN determinations greater than 20 mg/dl, none of these was above 40 mg/dl, and all responded to hydration. Table 1 shows the case numbers, admission values for BUN and creatinine, as well as repeat values after hydration. None of the patients was noted to be oliguric.

Discussion

The occurrence of acute renal failure in the setting of acute pancreatitis has been documented in several reviews, many of which involve British or surgical series. The percentage of alcohol-induced pancreatitis is low in both; there is, therefore, a skew toward gallbladder disease and trauma as the etiology and toward hemorrhagic rather than edematous pancreatitis as the pathology.

Acute renal failure in pancreatitis has been thought to carry a poor prognosis, with a mortality from 50%[3] to 80%[4]. In the case of alcoholic pancreatitis however, Goldstein et al[5] had no mortality, with

Table 1. Admission and post-hydration values in patients with criteria for alcoholic pancreatitis.

Case number	Admission BUN	Repeat BUN	Admission Creatinine	Repeat Creatinine
5	24	20	1.1	0.9
11	25	12	2.4	0.9
12	34	7	1.4	—
13	31	19	—	—
23	24	18	2.1	—
26	23	—	1.3	—
47	29	18	0.8	—
50	23	10	1.0	—
52	39	9	6.3	1.0
76	29	13	1.9	1.0
81	26	13	0.9	1.2
82	40	10	0.9	—
85	22	21	1.6	1.0

Serum values in mg/dl

From the Department of Medicine, Nephrology Division, Medical University of South Carolina, 171 Ashley Avenue, Charleston SC 29403.

Submitted 1-15-79.

only one of five patients requiring dialysis. They presented five patients with acute renal failure developing in a setting of alcoholic pancreatitis. The illness they described had a clinical picture of oliguric failure with a high urine sodium concentration, a benign sediment, an average serum BUN concentration of 105±28 mg/dl, and an average serum creatinine of 6.9±1.1 mg/dl. No evidence of hypotension was noted. No incidence figures were discussed.

That renal failure occurs in the setting of acute pancreatitis seems certain. The frequency with which it occurs in well-hydrated patients with uncomplicated alcoholic pancreatitis is seen to be small. If a patient presents with a high BUN and creatinine or develops them during the course of an admission for pancreatitis, pre-renal causes must be ruled out first. If true acute renal failure is documented, a more than cursory search should be made for an etiology for the pancreatitis other than simple alcohol abuse.

Conclusion

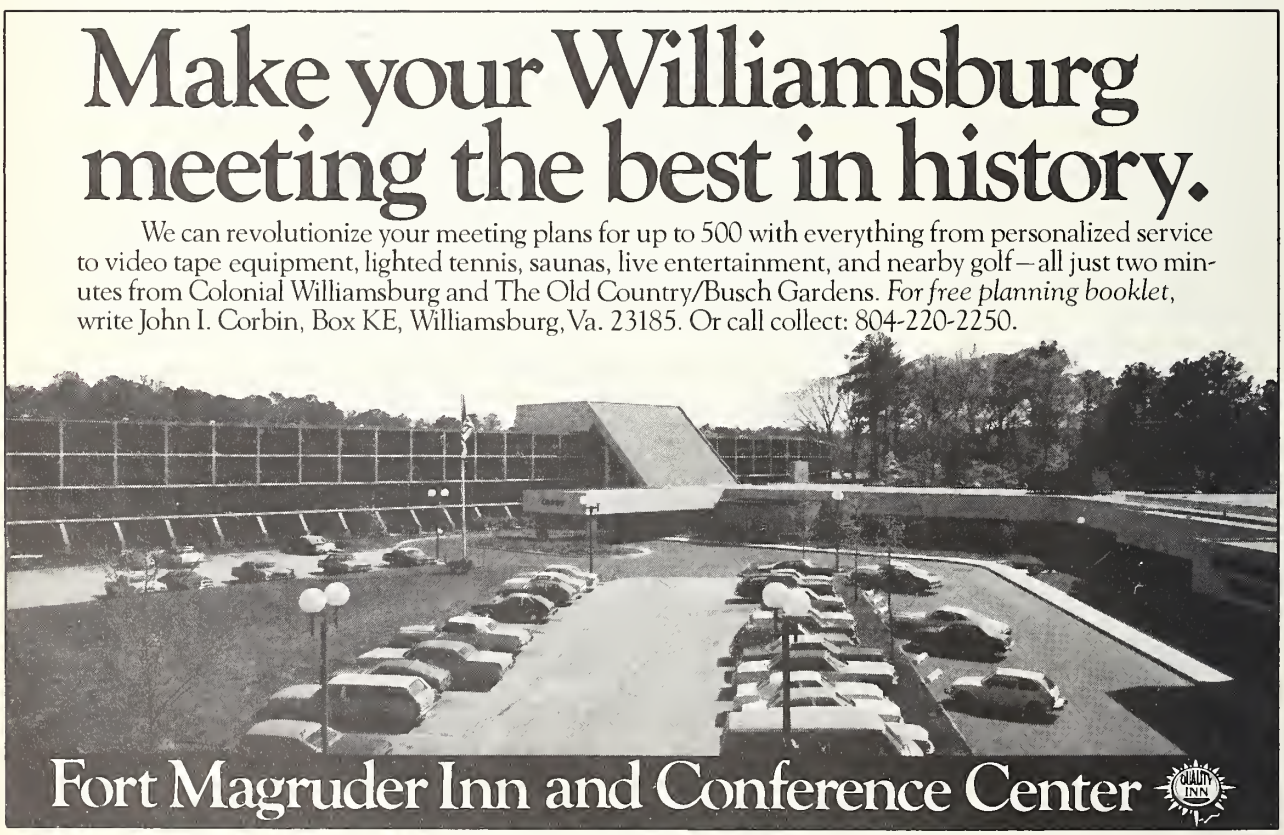
The best evidence shows that, in mixed series of acute pancreatitis, the occurrence of acute renal failure varies and augurs ill for the patient. However, in the more restricted instance of the well-hydrated patient with pancreatitis of alcoholic etiology, it is decidedly uncommon and, in the experience of Goldstein et al, seems to run a relatively benign course.

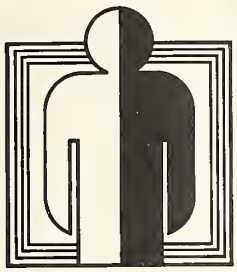
Acknowledgment

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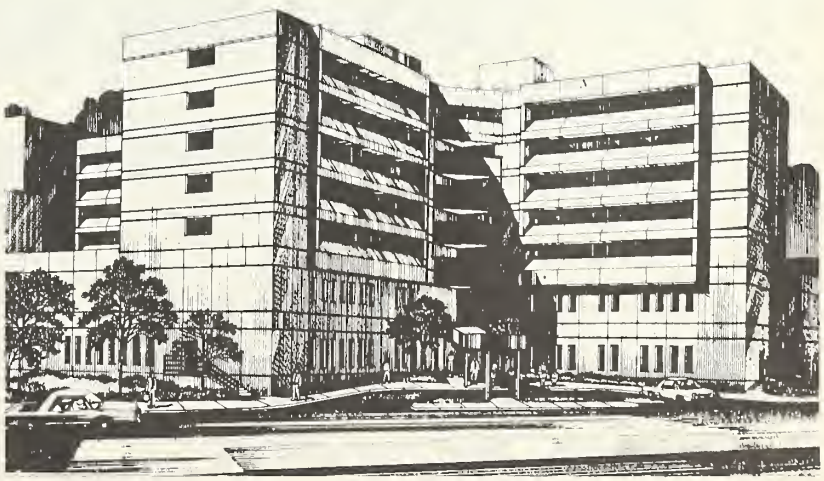
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George Washington was born to a modest planter family in Westmoreland County, Virginia, on February 14, 1732. This reconstructed brick house, representing his birthplace, stands at Wakefield. *Courtesy Virginia State Library.*

VIRGINIA MEDICAL

EDITORIAL

Don't Just Do Something....

What fools these mortals be. —Seneca's Epistles.

MAN is beset with many powerful drives. Hunger, a requisite for self-preservation, and sexual activity, a requisite for species preservation, are readily recognized. There is a third drive which must rank quite high on any scale—the impelling urge to do something in a crisis. When clear-cut, specific, remedial action is not possible because of implacable fate, or limitations of tools, skills or knowledge, or for whatever reason, individual or corporate deeds may range from appropriate, goal-directed activity to bizarre, inappropriate, and, even, counterproductive measures. Furthermore, the irresistible urge to do something, anything, varies directly and often proportionately with the severity of the crisis as it is perceived by those affected. Usually some rationale is invented to justify the action.

Many examples come to mind. A number of early civilizations held that fire was associated with deity, punishment, and propitiation. Accordingly, when dire events threatened the children were "passed through the fires," a euphemism for the simple fact that the children were burned up. In America today, as this is being written, pressure is building up to take some action, to do something about the evil happenings in Iran.

Citing these two examples together by no means suggests that they are comparable, but only that strong forces were/are at work. The impulse to take action in the face of challenge is fundamental to preservation. The critical issue is whether appropriate action is possible and is taken; and, if it is not, whether no action is better than inappropriate action.

We in the medical profession are often faced with the dilemma of whether action or no action is preferable, taking into account the limitations of the present state of the art and science of medicine as well as our own capabilities and the resources available. Indeed, in some instances, the therapeutic regimens imposed on society or the single patient in the name of science and medical consensus may prove to be totally unphysiologic, inappropriate, useless, harmful, dangerous, or even weird. The greater the crisis and the greater the urgency, the more likely is the inappropriate response. The following case report seems to bear out this contention.

G.W. was a 67-year-old white male whose chief complaints were a cold, sore throat, hoarseness, and fever. He was a big, powerful man, always extremely active and basically in good health, although some of his close friends felt he was beginning to fail a bit. He had several severe illnesses in past years but recovered without sequelae. His paternal forebears were relatively shortlived, his siblings died younger than his present age, and a half brother died of tubercu-

losis. But his mother lived to be 82, and there was no significant incidence of familial disease.

His present illness began with a cold during the day of December 13, following prolonged exposure to extremely inclement weather on the 12th. Toward evening his cold worsened, his throat was quite painful, and he became hoarse. About 3 AM of December 14 he suffered a severe chill, breathed with difficulty, and could hardly speak. Attempts at swallowing brought on spasms of choking and coughing. His throat was extremely painful and tender to touch. In spite of this he was able to dress and sit by the fire for several hours. As the day wore on his fever increased, his pain worsened, his breathing became much more labored, he was unable to swallow, and his voice was a hardly audible croaking. He was attended by his family doctor, who promptly sent for two consultants.

Treatment was instituted by 8 AM. From then until 4 PM he was bled four times, for an estimated total of 82 ounces. Additionally, blisters of cantharides were put on the throat in the morning, followed later by soft poultices of wheat bran. About 8 PM blisters were put on the feet and legs. two moderate doses of calomel were given, followed by grains 10, and repeated doses of tartar emetic, which caused a copious discharge from the bowels. He was unable to gargle the vinegar and sage tea which was prescribed because of choking to the point of suffocation. Flannel dipped in sol volatile was put around his neck, his feet were bathed in warm water, and hot water and vinegar steam inhalations were employed. At the time of the last bleed it was noted that the blood was thick and came reluctantly. The pulse was feeble, but at no time was the patient faint. He failed to respond to any treatment and died about 10 PM that day, just two months short of his 68th birthday. The diagnosis was cynanche trachealis. Modern terminology would name it acute streptococcal sore thorat with laryngeal edema. Death was attributed to suffocation from obstruction resulting from the edema of the larynx.

You recognize, of course, that the patient was George Washington. You know also that he was born in this month of February, on the 22nd, 1732, and that we celebrate this event over a long weekend on Monday, February 18.

The events as recorded by Carroll and Ashworth, who completed Freeman's heroic biography of Washington[1], by Blanton[2], and by Wells[3] vividly portray the sick room of a wealthy and famous man, critically ill and rapidly worsening as the day progresses. There are three physicians consulting, terribly concerned, aware that they are going to lose their patient. There is an anxious wife, a distinguished friend, and a loyal servant. The theme is one of consultation and deep thought, followed by activity. Much was done, and dramatic results were obtained that were evident for all to see. There could be no doubt that the doctors were fighting the dread disease with every means available and to the best of their ability. Some 2.5 liters of blood, copious discharge from the bowels, a flannel around the neck, blisters over throat, legs and feet are impressive evidence that all was being done that could be done.

From our vantage point of late 20th century science, we wonder how any intelligent human being could condone, much less initiate, such treatment. And particularly so since these were not backwoods doctors acting impulsively, but good men, well trained and at the top of their profession. Dr. James Craik, 70 years old, was an intimate friend of many years as well as family doctor. Dr. Gustavus Richard Brown, 50 years old, was a preeminent physician in Virginia and Maryland, like Craik had studied medicine in Edinburgh, where Benjamin Rush was one of his contemporaries, and worked in the hospitals of London to gain experience before returning to America to start his practice. Dr. Elisha Cullen Dick, at 37 the youngest, was apprenticed to Dr. Benjamin Rush and then to Dr. William Shippen, and graduated in medicine from the the University of Pennsylvania. Yet they carried out the traditional sweat, blisters, purge, vomit and bleed with the same traditional faith and the same traditional results.

The urge to do something was translated into an heroic attempt to rid the body of noxious and injurious substances. The vascular bed, stomach, bowel, and skin were the target sites chosen to accomplish this. By means of tortured reasoning, blood-letting was established as the cornerstone of therapeutics by the ancients and continued so into the 19th century. Bleeding was often continued *"ad deliquium"*, that is to say, until fainting occurred. Patient as well as doctor supported the obviously unphysiologic treatment, and at Washington's demand, an overseer bled him before Dr. Craik arrived on the fateful day.

A storm of protest erupted nation-wide over the treatment meted out to Washington by Drs. Craik, Brown and Dick. Yet, on the whole, history has dealt fairly with them. Death was due to laryngeal obstruction and suffocation, not from depletion of blood volume and severe dehydration induced by treatment. It is fruitless to speculate on what would have happened if Washington had been left alone. And the doctors were adhering to the established standards of practice of that day. Dr. Brown, in commenting on this later in a letter to Dr. Craik, expressed regret that

they had taken so much blood, but concluded: "But we were governed by the best light we had; we thought we were right, and so we are justified." It is interesting to note, though, that Dr. Dick had suggested that "the trachea be opened as a means of giving the patient breath," but the state of the art was such that the other two demurred, fearful that the procedure would be fatal; and he also expressed his opinion against further bleeding for "he needs all his strength—bleeding will diminish it." Again he was overruled by the senior physicians because of fear of criticism if they did not adhere to established practice. Dr. Brown, in the letter quoted above, also wrote: "I have often thought that if we had acted according to his [Dick's] suggestion when he said, 'he needs all his strength—bleeding will diminish it,' and taken no more blood from him, our good friend might have been alive now."

The "best light" available in the late 18th century was found in Edinburgh, the chief center for internal medicine, and William Cullen the leader of the School. Only a year before, in 1778, he had described "cynanche trachealis", a term designating inflammation and edema of the glottis, larynx, or upper part of the trachea, and recognized by a sense of constriction, a peculiar croaking sound of the voice, difficult respiration, and fever. His treatment? "Bleeding, both topical (i.e., using the tongue vein) and general, has often given almost immediate relief, and by bleeding repeatedly has entirely cured the disease. Blistering near the part affected has been found useful. Vomiting immediately after bleeding seems to be of use and sometimes removes the disease . . . particularly the frequent use of laxatives." Blistering, bleeding, emesis, catharsis. Harmful, painful, of no conceivable use. This was the word received from the center of medical practice; and this was the word that set the pattern of treatment for Drs. Craik, Brown, and Dick.

Nor should we feel too complacent about the preciseness and rationale of our 20th century medicine, and that it is always based on hard scientific fact rather than on emotion, wishful thinking, or an impulse to do something—anything. A look at several medical fiascos within recent memory can have a sobering effect.

Alarmed by unexplained crib deaths, medical wise men invented the concept of enlarged, airway-obstructing thymus, an impressive name, status thymicolymphaticus, and a dramatic treatment, the spraying of x-rays. The third edition of Cecil's textbook of medicine, copyrighted in 1927 but reprinted through 1935, states sagely: "Enlargement of the thymus in an infant should be treated by exposure to x-ray and administration of sodium iodide . . . future difficulties may be avoided if the tendency to status thymicolymphaticus is recognized early and treatment instituted at the proper time." Physicians today are on the alert for cancer of the thyroid in erstwhile sufferers from "status thymicolymphaticus" following their treatment.

Chagrined because peptic ulcer disease is chronic, recurring, requires a troublesome regimen, and is often resistant to therapy, other wise men developed the concept of "freezing" the stomach and the apparatus to accomplish this. Fortunately, this fad was short-lived, lasting only for a bit of the 1950s and into the 1960s.

Concerned that we Americans would die by the thousands in a swine flu plague, our government, on the advice of bright and well-intentioned physicians, spent $135 million and injected 45 million people with a vaccine. Adverse reactions and an increased death rate among those vaccinated brought this endeavor to a halt. The feared epidemic never arrived.

These instances cited, from Washington's terminal illness to the swine flu epidemic sans epidemic, share the common feature of urgency to take action when no action would have served better than the action taken. Many other examples could be given varying in degree from simple to severe, from stupid to bizarre. The temptation is an urge to do something beyond the limits of our knowledge and in contravention of reasoning, and the failure to recognize that action for action's sake is rarely successful or justified. Doubtless each of us in one way or another has experienced his own "blood-letting" therapeutic failures.

This thesis has not been developed to chill new methods, to reduce experimentation, to halt risk-taking, or to condone inertia. Developments from small pox vaccination to organ transplant are evidence enough for the need for these. Rather, this is a plea to recognize that even in this 20th century, inaction may still prove to be the best action when great pressures build up to do something.

The first rule of therapy is *primum non nocere*, "First do not harm." And sometimes akin to it is the admonition, don't just do something, stand there.

W. T. THOMPSON, JR., MD

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VIRGINIA MEDICAL OBITUARY

Memoir of Earle B. Morgan 1910-1979

By Richard M. Newton, MD

Dr. Earle Bailey Morgan, 69, of Fincastle, Virginia, died from a cerebral infarction on November 13, 1979. Dr. Morgan had suspended his practice in 1974 after suffering a stroke. He had been Fincastle's country doctor, as the *Fincastle Herald* stated, since opening his practice in the Botetourt County seat in 1939.

Dr. Morgan sought to attain excellence in both his personal and professional lives. His domain was not the hallowed halls of academia but rather the humble homes of sick and needy people. He was an immensely kind man who gave cheerfully to his family, his patients and his community. During the shortage of physicians in World War II, he truly worked night and day. The larger number of mourners at his funeral attested to the community's appreciation for his life.

He was reared in the Dublin area of Pulaski County and was graduated from Emory and Henry College in 1932. After teaching school for two years in Montgomery County, he attended the Medical College of Virginia and received his MD degree there in 1938.

He served his internship at Lewis-Gale Hospital in Roanoke and in 1939 opened his office in Fincastle as a general practitioner.

He and his wife, Ruby Counts Morgan, operated his office on Roanoke Street in Fincastle, and in 1975 they were presented a distinguished service award by the Botetourt County Chamber of Commerce, the first time the award was presented jointly to a husband and wife. Similar honors were received from the Botetourt County Jaycees and Lone Star Cement.

Dr. Morgan was an active member of the Fincastle United Methodist Church and Catawba Masonic Lodge. He was District Deputy Grand Master of District No. 22 in 1949. He also was a member of Allied Masonic Degree, the Royal Order of Scotland, and Commandry, Murray Royal Arts and the Scottish Rite Bodies, Kazim Temple. From 1962 to 1974, he was a member of the DeMolay Council of the Roanoke Valley, receiving the DeMolay honor of the Cross of Honor in 1963 and the Legion of Honor in 1965, as DeMolay Advisor.

He was medical examiner for Botetourt County from 1948 until his retirement in 1974 and donated his services at State Correction Camp #25 from its beginning until 1974.

Dr. Morgan was a member of the Roanoke Academy of Medicine, The Medical Society of Virginia, the American Medical Association, the Southwestern Virginia Medical Society, the Association of American Physicians and Surgeons, and the Virginia Academy of General Practice.

Memoir of Thomas Walker 1910-1979

By R. Wallace Baxter, MD,
Custis L. Coleman, MD, and George R. Jones, MD

With the death of Dr. Tom Walker, founder and first President of the Virginia Society of Anesthesiologists, on July 6, 1979, it could be said that an era came to an end.

Dr. Walker, with his associate Dr. Pembleton and his friend Dr. Lynch, laid the foundations upon which rest the respect and distinction which his specialty enjoys today in this city. Many of the anesthesiologists now in practice in this area were trained by, or associated with him, and every one of them owes him something.

He was born in Andover, Massachusetts, educated at Phillips Academy in Andover, attended Yale University and completed his medical education at Tufts.

He came to Richmond in 1948 as associate professor of anesthesia at the Medical College of Virginia. He later became chief of anesthesia at Richmond Memorial Hospital, where he practiced for almost 20 years. He was a pioneer in the use of epidural anesthesia in obstetrics and the author of a notable paper on this subject.

He was an unusualy gifted man whose qualities were revealed in ever greater depth as the acquaintance progressed. He was an individualist, a man of humor and of great courage at various crises in his life, notably when his daughter died, victim of a tragic accident.

He despised convention, although a man of propriety. When he finished his undergraduate studies at Yale, in the depression years, his father advised him to seek a job in which he could be assured of a decent meal, so he went into the hotel business for a time, until he could enter medical school.

He was very proud to be a physician, and proud that there were doctors in his family before him. He was ever conscious of the responsibility to the patient which each of us must show.

He was also proud that one of his ancestors helped King Charles the Second hide in an oak tree after the disastrous batle of Naseby, and for this service by his progenitor, Tom received a sum of money from a fund established after the King's restoration to the throne in 1660, in recognition of this ancient act.

Dr. Walker did not court popularity. There were some who disliked his brusque manner and the anger he showed at what he considered to be their incorrect professional behavior, but none failed to respect his professional competence and his efficiency in managing the operating schedule.The nurses with whom he worked, adored him. He taught them and gently bullied them and supported them when under pressure from impatient surgeons.

At a time when contemporaries were learning golf and bridge, Tom learned to fly a plane; he was an accomplished sailor, and a keen fisherman.

After an episode of acute respiratory failure six years ago when an ordinary man might have sought retirement, Dr. Walker finally gave up smoking cigarettes, made an impressive recovery and returned to active practice as chief of anesthesia at Henrico Doctors' Hospital, directing the department with skill and vigor, wresting from the administration, by sheer persistence, the lucrative space occupied by part of the pathology lab for an outpatient anesthesia department, a scheme dear to his heart.

When you asked Tom Walker the conventional question, "How are you?" he invariably avoided the usual reassurance, but said tersely, "*I'm here.*" It is our loss that he can no longer say it.

He was ever a fighter, and thinking of him there comes to mind the description by Shakespeare of another great, if imperfect, warrior, "The elements so mixed in him, that nature could stand up and say, 'This was a Man.' "

J. E. Stevens, MD

Dr. John Edgar Stevens, Richmond internist, died December 16 in a Richmond hospital at the age of 62. Since his retirement from private practice in 1976, Dr. Stevens had been a member of the medical staff of Powhatan Correctional Center and a physician for the home office of the Ethyl Corporation.

A native of Richmond, Dr. Stevens received a bachelor's degree from the University of Richmond in 1937, his medical degree in 1941 from the Medical College of Virginia, and an MS in medicine from the University of Minnesota in 1949, then trained at Stuart Circle Hospital, Richmond. He was a clinical professor of medicine at MCV from 1949 to 1976 and an attending physician in medicine and hematology at McGuire Veterans Administration Hospital, Richmond, from 1949 to 1959.

During World War II Dr. Stevens served in the Army with the 80th Armored Medical Battalion of the 10th Armored Division; he also was an assistant of the contagion section of the Fort Benning, Georgia, hospital and was discharged as a major.

Dr. Stevens had been a member of The Medical Society of Virginia for 30 years and belonged also to the American College of Physicians, the Southern Medical Association, the Richmond Academy of Medicine, the American Society of Hematology and the Richmond Society of Internal Medicine.

Samuel S. Morrison, MD

Dr. Samuel Stuart Morrison, Leesburg general practitioner, died November 17 in Pearisburg, Virginia. He was 60 years old. Dr. Morrison was graduated from the University of Richmond and the Medical College of Virginia and served with the United States Army during the Korean War. He had been a member of The Medical Society of Virginia for 25 years.

WHO'S WHO IN VIRGINIA MEDICINE

In an effort to teach Virginians how to handle simple medical problems at home, the Roanoke Academy of Medicine joined two public health agencies recently in presenting a television series on how to take care of yourself. Titled "Your Care Package", the series consisted of thirteen half-hour segments and was broadcast in prime time over public TV stations serving rural Southwest Virginia, where doctors are few and far between.

The programs were the idea of **Dr. Nancy M. Welch**, director of the Alleghany Health District, and she was the hostess on each show. Two physicians from the Roanoke Academy appeared with her each week, as shown in the photograph on the opposite page; they discussed such subjects as common injuries, colds and flu, skin problems, chest pain, childhood rashes and fever, eye problems, and the digestive tract. The topics were developed by an Academy committee of four: **Dr. Charles D. Gilliland, Dr. J. Albert Hagy, Dr. J. Hayden Hollingsworth,** and **Dr. Michael J. Moore**. The Academy's then president, **Dr. Charles L. Crockett, Jr.,** selected the speakers.

Production and promotion costs were shared equally by the series' three sponsors—the Roanoke Academy, the Alleghany Health District, and the Coordinated Health and Medical Program. The public stations, WBRA-TV and WSVN-TV, contributed air time and personnel.

Viewers responded enthusiastically to the series, and officials of the two stations are trying to carve re-run time out of their schedules. Meantime, tapes of the programs will be made available for community meetings, with health department representatives on hand to answer questions.

Dr. Gary J. Soverow has been appointed senior consultant to adult services at Dominion Psychiatric Treatment Center, Falls Church. Dr. Soverow formerly was responsible for an adult admissions unit at St. Elizabeth's Hospital, Washington DC and serves on the faculty of Howard University.

New chairman of the department of obstetrics and gynecology at the University of Virginia School of Medicine is Dr. Paul B. Underwood, Jr., former professor of obgyn at the Medical University of South Carolina. He was appointed to succeed **Dr. W. Norman Thornton, Jr.,** who retired after 29 years in the post.

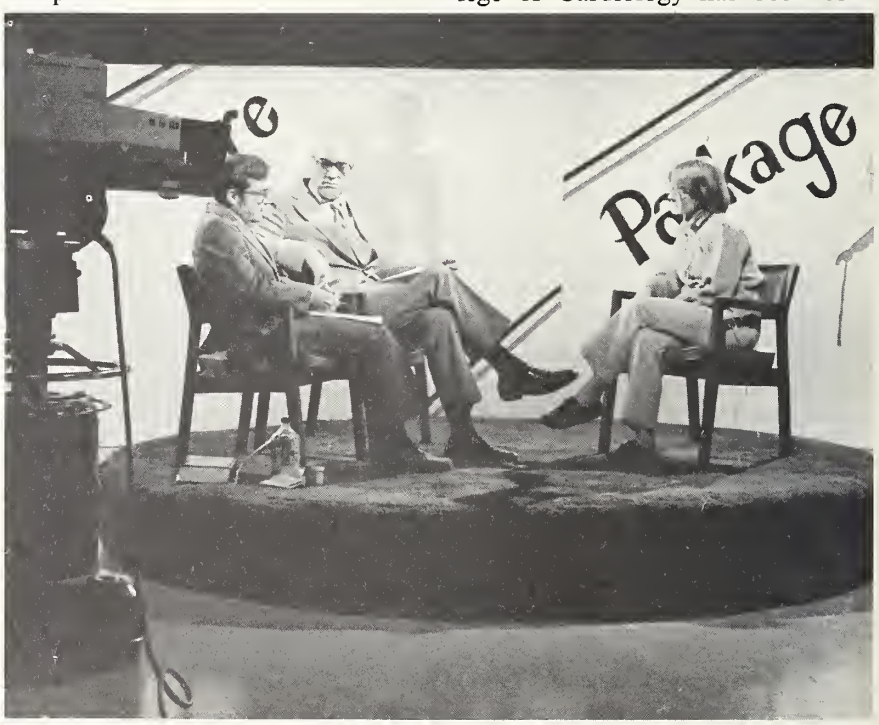
New president-elect of the American Association of Medical Assistants is Dorothy Sellars, who is a medical assistant in the *Richmond* office of **Dr. Ralph E. Hagan** and was elected at the Association's annual meeting in Chicago.

Dr. Thomas H. Albertson, *Lynchburg,* was elected the new chairman of the Policy Advisory Board for the Central Virginia Alcohol Safety Action Program at a recent meeting of the board.

The Christian Children's Fund, one of the largest and oldest international child care organization, is now led as president by **Dr. Thomas W. Murrell, Jr.,** *Richmond,* who was elected to the post during the Fund's recent annual meeting.

New president of the medical staff of the Fairfax Hospital, Falls Church, is **Dr. Ira S. Young,** *Annandale* urologist.

Fellowship in the American College of Cardiology has been con-



On camera: Dr. Gerald W. Roller (left) and Dr. J. Albert Hagy (center) of the Roanoke Academy, and Dr. Nancy M. Welch of the Alleghany Health District.

ferred on **Dr. Edward A Lefrak,** *Fairfax,* and **Dr. John E. Quinn,** *Winchester.*

Dr. Robert M. Epstein, *Charlottesville,* was elected president of the American Board of Anesthesiology at the board's annual meeting in Tarpon Springs late last year. Chairman of the University of Virginia School of Medicine's anesthesiology department, Dr. Epstein has served as president of the Association of University Anesthetists and editor of *Anesthesiology,* a monthly journal published by the American Society of Anesthesiology.

These MSV members have been named as fellows of the American Academy of Family Physicians: **Dr. James E. Patterson,** *Marion;* **Dr. Girard V. Thompson,** *Chatham;* **Dr. Jorge A. Naranjo,** *Boykins;* **Dr. Thomas D. McDonald,** *Grundy;* **Dr. Rodrigo T. Isada,** *Saltville;* and, from *Richmond,* **Dr. John Henry Pope, Jr., Dr. Marvin T. Williams,** and **Dr. Richmond William Crossen.**

Dr. Michael E. Johns, *Charlottesville,* has been appointed director of the new division of head and neck oncology and surgery at the University of Virginia School of Medicine. The division is a component of the University's department of otolaryngology and maxillofacial surgery, of which **Dr. Robert W. Cantrell** is chairman. Dr. Johns was assistant chief of otolaryngology at Walter Reed Army Medical Center, Washington, before joining the UVa faculty.

Dr. George E. Broman, Jr., *Culpeper,* has been elected chairman of the Statewide Health Coordinating Council. A vice councilor of The Medical Society of Virginia, Dr. Broman was appointed to the council in 1976 by Gov. Mills Godwin.

Dr. Charles N. Caravati, Jr., is the new president elect of the Richmond Academy of Medicine. Elected with him at the Academy's meeting early this year were **Dr. Ronald K. Davis** and **Dr. Duncan S. Owen, Jr.,** vice presidents; **Dr. C. M. Kinloch Nelson,** recording secretary, and **Dr. Harry W. Easterly III,** sergeant-at-arms. **Dr. Custis L. Coleman** is the president for 1980.

WHO'S WHO IN VIRGINIA MEDICINE

These are newly elected officers of the Northern Neck Medical Association: **Dr. Alexander D. Crosett, Jr.,** *Kilmarnock,* president elect, and **Dr. Gaylord W. Ray,** *Burgess,* vice president. **Dr. Norman R. Tingle,** *Lively,* was reelected secretary-treasurer. **Dr. Charles D. Price III,** *Kilmarnock,* is the new president.

There isn't a reason in the world for publishing the picture you see at left, except that it records with rare felicity three Medical Society of Virginia leaders—and that's reason enough. Shown beneath the portico of the Homestead in Hot Springs the day before the Annual Meeting 1979 opened are **Dr. Charles E. Davis, Jr.,** then President; Robert I. Howard, Executive Vice President; and **Dr. Kinloch Nelson,** Continuing Medical Education Coordinator. The three were headed for the Upper Cascades golf course, there to join **Dr. John A. Martin,** Past President, for a foursome. On seeing this picture, Dr. Davis remarked of Dr. Nelson, "He's smiling as though he's found some pigeons and is about to pluck them." Indeed he had, for he and Dr. Martin won the match and proceeded to pluck some hard cash from pigeons Davis and Howard.



Headed for a plucking: Dr. Charles E. Davis, Jr. (left); Robert I. Howard (center); and Dr. Kinloch Nelson. *Photograph by Barbara McDonald.*

VIRGINIA MEDICAL CLASSIFIED

Virginia Medical Classified insertions accepted at the discretion of the Editor. Rates: $10 per insertion for 50 words or less, 10¢ per word in excess of 50. Classified display available at $20 per 50 words. Copy due by the fifth of the month prior to month of publication. Send to the Managing Editor, 4205 Dover Road, Richmond VA 23221.

FMG University trained general pediatrician, Board eligible, available July 1980 for any type of practice. Write to W.K., MD, 37 Judson St., #10B, Edison NJ 08817.

OPHTHALMOLOGIST-otolaryngologist retiring, wants to sell his professional equipment and instruments. Call or write. Albert R. Gillespie, MD, 151 Woodland Drive, Staunton VA 24401, (703) 886-2714.

RADIOLOGIST—General diagnostic radiologist with adequate training in diagnostic ultrasound and vascular radiology. VA Medical Center, Salem, Virginia. Contact Dr. Pepa, (703) 982-2463, Ext. 547.

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VIRGINIA: Clinical position available for an emergency medicine physician in moderate volume emergency department located in western portion of state. Minimum guarantee, paid professional liability insurance. For further details, send credentials in confidence to Mr. Joe Woddail, 970 Executive Parkway, St. Louis MO 63141, or call toll free 1-800-325-3982.

PRIMARY CARE MDs—New federally-subsidized rural group practice in beautiful Chatham, Virginia, seeks two full-time, board-eligible or board-certified primary care MDs for July 1980. Approved NHSC site but non-NHSC candidates eligible; service area 20,000; on-site practice administrator; 18 miles from urban center of 60,000 (Danville VA) with 459-bed hospital; excellent salary plus fringe; excellent prospects for traditional private practice at end of 3-year grant period; mountains/lakes close by. Call Memorial Hospital, Danville VA 24541, (804) 799-4441.

MD OFFICE space to sub-lease February, 1980. Tyson's Corner area. Spacious, 1200 sq. ft., 2-3 examining rooms, 1st floor, townhouse type office complex in prime location. Easy accessibility to main roads and Fairfax Hospital, ample parking. Ideal for internist, GP or surgeon. Support staff available. Contact (703) 573-5535.

AVAILABLE—General and vascular surgeon, 36, university trained, wants to relocate in Virginia. Urban area preferred. Available July 1980. Write to Box 31, VIRGINIA MEDICAL, 4205 Dover Road, Richmond VA 23221.

WANTED—Primary care MDs to take advantage of excellent opportunity in private practice in beautiful Danville, Virginia. Annual guaranteed income of $40,000; office space available; other aspects of position negotiable. Contact Hunter Grumbles, Administrator, The Memorial Hospital, Danville VA 24541, (804) 799-3700.

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"Personal Action Is the Backbone"

VaMPAC registered a successful political year in 1979, thanks to the devoted leadership of Dr. Harold I. Nemuth. Saliently, Dr. Nemuth spearheaded late last year the creation of the "PAC 250 Club", which in only a few months has signed up 80 members. This new membership category should generate increased physician participation in the political process—and that will mean increased effectiveness.

For the first time, VaMPAC was involved in 1979 with the state races for senator and delegate, and the overall success rate was a high 73%. The decision to involve the PAC in these state contests came from the realization that a good part of the practice of medicine is influenced and shaped by state legislation and the voice of organized medicine should be heard. The choice of which candidates to support was based both on legislative records and the information of local physicians and VaMPAC board members.

In 1980, VaMPAC's goals include not only the fostering of direct contributions but a program designed to increase the political awareness and campaign know-how of physicians and their families. In a special research project, a field representative will work full-time at giving basic voter information and encouraging voter registration among all physicians and their families. Surveys will be taken intermittently prior to the November elections, and a followup analysis after the elections will assess the effectiveness of the voter registration drive. The resulting study will measure not only voter participation but the political effectiveness of the medical community.

And your VaMPAC officers and board members will be making special efforts in 1980 to increase their visibility and availability to all Virginia physicians. They are most eager to hear from the doctors and their families in their districts and are here listed for your reference.

Officers, in addition to myself as chairman: Dr. A. Epes Harris, Jr., chairman elect; Dr. Harold L. Williams, vice chairman; Dr. Gerald Crain Burnett, treasurer; and Dr. Percy Wootton, secretary.

Board members by congressional district:

- 1st: Dr. James R. Howerton; Dr. Williams; Mrs. Williams.
- 2nd: Dr. Clarke Russ; Dr. William S. Hotchkiss; Mrs. Harry Randolph Tate.
- 3rd: Dr. Nemuth; Dr. John A. Rawls; Dr. Wootton.
- 4th: Dr. Arthur A. Kirk; Dr. H. Alan Bigley.

• 5th: Dr. Girard V. Thompson, Sr.; Dr. Harris; Dr. Burnett.

• 6th: Dr. Charles A. Young, Jr.; Dr. Howard Michael Hanna, Jr.; Mrs. William N. Gordge.

• 7th: Dr. Harvey D. Smallwood; Dr. Robert W. Preston.

• 8th: Dr. Emory F. Hodges, Jr.; Dr. Albert T. Ventzek.

• 9th: Dr. George R. Smith, Jr.; Dr. James L. Gardner.

• 10th: Dr. Barbara A. Mella; Dr. Robert Philip Nirschl; myself.

Although the financial support solicited by VaMPAC from the entire medical community is crucial to our efforts, a monetary contribution should be only the beginning for the conscientious physician. Personal involvement in the campaign of the candidate of one's choice, regardless of party, is the backbone of political effectiveness. Early support will be remembered and will facilitate personal contacts later.

Let's make sure 1980 is a great year for both medicine and Virginia!

W. Leonard Weyl, MD, Chairman,
Virginia Medical Political Action Committee.

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Big Business Eyes Medical Issues

The Washington Business Group on Health had only a handful of corporate members when it was launched in 1974, but the event itself caused tremors throughout the power bastions that make public health policy. Why? Because pro-government-regulation advocates and their opponents both rightly perceived that an energized, bankrolled big business lobby may have the power to tilt the political teeter-totter on such issues as national health insurance and government health planning.

Since then the WBGH has grown to represent over 160 "Fortune 500" companies, ranging from Abbott Labs to Xerox, with more than 40 million employees and dependents. It has served as a catalyst for making members better managers of employee health plans and has spoken out on almost every major health policy issue. But so far, its political weight seems to have been distributed evenly on both sides of the political teeter-totter. To find out why, and to learn more about how big business's growing concern for employee health care affects [physicians], James D. Snyder, editor of *Group Practice*, interviewed Willis B. Goldbeck, director of the Washington Business Group on Health, in his Capitol Hill office.

This text was condensed from an article originally published in *Group Practice,* journal of the American Group Practice Association, for September-October 1979, and is reproduced here by permission. © 1979 *Group Practice*.

What's your view as to why businesses are becoming activists in medical care policymaking?

The commonly held view is that it's just a simple matter of combating rising costs. But that really isn't the whole picture for several reasons. First, we got our start before the health care cost issue ever rose to the surface. Remember that we were founded in 1974 and consider that during the 1975 hearings on national health insurance, the word "cost" never even came up. The big national health insurance questions on business's mind had to do with implications for employee benefit programs and for the negotiating process with unions. It was the general sense that big businesses—and it's important to understand that our group attempts only to represent big companies—felt they were spending large sums on health services but had almost no say and very little awareness of what was going on in the government.

. . . . The typical physician is probably confused as to what kinds of things you would advocate to government. After all, business itself has been bruised badly by over-regulation, and many doctors would say that the health care sector's ailments stem from the same. So if the WBGH is perceived as lobbying for new laws and regulations, a red flag goes up in the doctor's mind. Can you help straighten us out?

Okay, First, we do very little lobbying—and none in the traditional sense of political contributions. But

that's not to say that we don't want to have some influence over the general shape of things.

I characterize ourselves chiefly as information disseminators. We monitor legislation and regulatory affairs and participate in some of the early deliberations in framing them. We also try to give government bodies and individual experts access to both data and experience from our companies. The latter is very important . . . what I'd call a broker role. It's very difficult for a congressional committee or HEW to call up a major business and even find the right person to deal with.

What are some of the things you're advocating?

We're no more or less involved with dealing with the pros and cons of regulation than is the medical community or the insurance industry. The medical profession is constantly advocating regulations and legislation of one kind or another just as they're constantly opposing other forms. It's not an all or nothing game. There's no such thing as the future of health care being in the public sector or in the private sector. It's in both and will continue to be.

Let's get specific. Has the WBGH taken a position on Carter's hospital cost containment bill?

Yes. We opposed it as early as two years ago and we've also served as the business representatives, along with The Business Roundtable, on the Voluntary Effort National Steering Committee. We op-

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posed the bill because we thought it was both inappropriate and ineffective. We thought it was a form of price controls and we don't believe in price controls as a mechanism.

Let's look next at national health insurance. What's the official WBGH position on that subject?

We've never supported a specific bill. But we certainly would not support the "health security" approach taken by labor and Senator Kennedy. We've tried to deal with elements of national health insurance rather than with the whole piece.

Speaking of "elements," what about the subject of physician fee controls, which are a part of both the Kennedy and Carter administration proposals?

I think most people in business are very reluctant to suggest any form of national fee schedules even though I personally think it's very much in the future regardless of whether anyone likes it. However, if we were confronted with some sort of HEW-mandated fee schedule as a serious legislative proposal, my guess is that we'd oppose it.

How does the WBGH feel about those national health insurance bills that would mandate employer-paid coverage for all employees?

If there is to be any national health insurance, we *want* coverage mandated. We don't think it's fair for one company to be able to charge lower product prices simply because it elects not to give its employees health insurance.

How about federal health planning laws and the network of health systems agencies?

It's true that at the same time we've opposed cost containment legislation, we've also supported health planning legislation. And that's gotten a number of physicians very upset. We've had very strong pressure from organized medicine to oppose health planning, but we want to see it strengthened instead of weakened. There's no question that there's going to be health planning in the United States. The question is whether it will be local or federal.

Right now there's an opportunity to make the federal/local health planning system function. And we *know* it can function because there are just too darn many concrete examples of where it does work.

The fact that there are examples of lousy health planning agencies is really quite irrelevant. There are lousy businesses, lousy doctors, and lousy associations. The fact that some planning agencies work very well is worth pursuing. We certainly don't want to see some corner of HEW doing health planning for the whole damn country. We think the local planning system gives industry and labor people and others who haven't really participated as consumers in the past an opportunity to bring a new perspective to the table.

What's your view on the HMO project?

Our views on the federal HMO assistance program would probaby differ from our feelings about prepaid group practices in general. As a group we are supportive of assisting HMOs and feel very strongly that alternative delivery and financing mechanisms are essential in changing the economic incentives in the health care game.

But the federal HMO program per se has had a very shaky history. It was incredibly oversold at first as a panacea for everyone—which it's not. Currently it seems to be moving in better directions and with better leadership than it had before. But the HMO concept itself is irrefutable—it's proven.

Let's look now into your other major role as catalyst or cross-pollenizer of innovations within the corporate sector. For example, Reynolds Metals in Winston-Salem made a lot of news recently when it launched its HMO program for employees. What's your feedback on that program—and has it created a trend among other companies?

Originally, Reynolds was to have been just one of a group of employers who were going to launch an HMO in that area. But when the rest dropped out during the development phase, Reynolds decided to keep going. And now they have a fully-subscribed HMO that grew many times faster than they expected. They now have a high acceptance from employees. And physicians, too, judging from the long waiting list of doctors they have who want to move down there and work in that HMO.

It's served as a model for other companies, but I think that most of them are somewhat reluctant to start an HMO just for their own people. I think you'll see more growth in companies stimulating IPAs (independent practice associations) than you will building closed panel HMOs.

How many IPAs do you think there are right now in various stages of gestation that have been spawned largely by big business?

We haven't made a formal attempt to add them all up, but I'd guess it would be on the order of 25.

Do you think companies are now paying closer attention to the health statistics of their own employees as a result of their cost awareness?

Yes. Despite the fact that strengthened laws on privacy mean that they're looking less at individual records, they're paying much more attention to such things as hospital utilization records and whether they're being billed properly by providers.

The issue that gets to the heart of whatever industry is doing is whether or not the money they're putting into the health care sector provides perverse economic incentives for provider and patient behavior. Historically it's provided just that because health plans are skewed toward in-hospital care. Most of the benefit packages were originally written so that the physician would be reimbursed if the patient was treated in the hospital.

Are you therefore working for greater third-party reimbursement for ambulatory care? For example, are you urging Blue Cross and Blue Shield to reimburse more for home care?

Well, we work through the employers. But, yes, we've encouraged such things as ambulatory surgery, reimbursement for different categories of nonphysican providers where appropriate, home care, and hospice care. We particularly urge companies to at least investigate these alternatives so that they're making a conscious decision about them and not one based on ignorance.

How about some other areas where corporations are innovating? What abour peer review, for example?

Absolutely. We're increasingly seeing companies buying into various forms of peer review. If peer review makes sense as both a quality control and cost containment device for patients financed by government programs, it darn sure makes sense for patients under private programs.

Can you offer examples of companies that have tied into utilization review?

Yes. Goodyear's done it in several locations and lopped off anywhere from a half to a full day's length of hospital stay in the first year. Caterpillar did so last year just outside Chicago—and again with a dramatic reduction in length of stay.

A related trend is that more companies are turning to self-insurance, or more properly, self-funding. They tend to pay a lot more attention to the data when they're doing their own claims management. And they're also apt to have a lot more direct contact with their employees and with the utilizers than when they go through a third party carrier. If the employee has no Aetna or Blue Cross to complain to, he's going to come right back to his personnel office.

Now because of both the trends I've just mentioned, we're starting to see more use of independent claims management experts, such as a firm called U. S. Administrators out in Los Angeles. This is a claims administration firm that has reduced costs dramatically by very, very aggressive monitoring of claims for appropriateness and accuracy.

What are some other innovations you see in the corporate world?

One is that compaines are changing their benefit packages. They're also interacting more and more directly with the health care system through peer reviews, working with health systems agencies, expanding their own corporate medical facilities, and developing HMOs.

I think you're seeing a dramatic growth in corporate investment in health education and health prevention programs for their own employees and their dependents. Mental health is a big growth area.

Why so for mental health?

Well, if you accept the contention of the AMA, Kaiser and others that something like 50% to 70% of all visits to private practitioners have no medical-physical basis, you don't have to look too long to surmise that the reason for the visit may be stemming from such things as divorce or financial matters or alcoholism. The cost of alcoholism alone can more than justify attention to this area.

I think all these things reflect a changing of values in this country. There's a lot more attention being paid to *how* we live, what we eat, and how we take care of ourselves. It's a "wellness" orientation. In fact, it's been a terrible misnomer to call what we have the "health system." It's a medical care system. And to say that isn't putting down doctors. After all, they're trained to repair bodies. But it's improper to call what they do a "health system."

When we have a country that denies almost all of our children a public health education as a matter of local policy—and I say that because the vast majority of schools don't offer one hour of it—we're not very serious about having a healthy population down the road.

And you consider all this within the purview of the Washington Business Group on Health?

You bet—I sure do. Industry is not a bunch of inanimate objects. The same people who are running corporations run hospital boards and school boards. They put their kids through schools and wonder why they come out ignorant of the health care system and their role in it as consumers. So yes, we're very much interested in it and very aggressive about it. ■

Want a Cushy Honorific? This Isn't It.

"This honorary job carries awesome responsibility and a strong potential for controversy." The three physician-members or the Virginia State Board of Health describe what they do and how they prepare themselves to do it.

AS representatives of the medical profession on the State Board of Health, we believe it appropriate to report to you from time to time on activities of the Board.

First, we should say that when we were first named to the Board we were amazed, and a little overwhelmed, at the scope of the legal responsibilities of the Board. This is due in part to the long association between The Medical Society of Virginia and the Board of Health. The Society, in a sense, established the Board of Health in 1872; in fact, for many years the Board was composed entirely of Society members. As a consequence, the statutory responsibilities of the Board, as they have been broadened over the years, have always had the support of the medical profession. This has resulted in a strong Department of Health, with less fragmentation of health services than is found in many states.

An example of this occurred two years ago when a governmental reorganization bill proposed the transfer of sewage and solid waste disposal responsibilities from the Board of Health to other agencies. Bill Hagood, the Society's President at the time, appeared before the legislative committees on several occasions to protest this proposal and to present the compelling reasons for continued health direction of these programs. And he continued his pursuit of this matter until both bills were rejected. Just recently, a resolution sponsored by the Norfolk Medical Society, reaffirming the importance of retaining solid waste regulatory authority with the Board of Health, was passed by The Medical Society of Virginia's House of Delegates.

Currently, the Board of Health is composed of nine members: three physicians, a dentist, a pharmacist, a nurse, a hospital administrator, an engineer, and a veterinarian. The expertise of each discipline is invaluable as we consider the matters before us.

This past year, the health laws of Virginia were rewritten by the General Assembly. They are codified now in a straightforward manner and a reading of the chapter and article titles gives one a good overview of the wide range of activity and responsibility imposed on the Board.

Environmental concerns occupy a major portion of the Board's time. This should not be unexpected, for the wording of the original act establishing the Board included a charge to ". . . make sanitary investigations and inquiries respecting the cause of disease." While improved sanitation and sanitary science have all but wiped out the bacteriological problems prevalent a century ago, our population now faces new hazards associated with population growth and the chemicals which permeate our daily existence. New federal and state legislation has intensified the Board of Health's historical responsibility in environmental control. Public drinking water supplies, sewage disposal, solid and hazardous waste management, toxic substances, and radiation control are now matters of strong, and sometimes violent, public interest. Such environmental controls are expensive items in any budget, whether it be that of a local government or private industry. In its regulatory decisions and in all environmental matters the Board strives for a realistic balance between the public's expectations and the resultant financial burden.

Medical care programs certainly have not taken a back seat to environmental concerns. Consider the fact that Virginia Medicaid spends over $1 million a day for health

services, with over 300,000 Virginians served annually. The Board of Health has policy direction over this big program and also over the health services provided in the local health departments in every city and county in the state; these range from a fairly traditional program in a small county to the very sophisticated services of the Newport News Health Department, which are operated, with the approval of the local medical society, as the outpatient service of the Riverside General Hospital. Currently, the Board is wrestling with a realistic definition of the "medically indigent" who, by law, are to receive local health services at no cost. We have permissive authority to provide services to an additional low-income population with charges based on ability to pay.

All regulatory decisions of the Board carry the authority of law, but before this can be accomplished, each proposal must be subjected to public comment. Members of the Board spend many extra hours holding public hearings and evaluating comments received. The staff of the Health Department handles administrative details of the procedures, but when the final decisions are made, the Board relies to a large measure on the member who chaired the hearing.

You may wonder how we three practicing physicians gained the expertise for our decisions, to say nothing of affording the time that Board membership requires.

First, our medical training is founded on chemistry, biology and physics; from this we can develop a general understanding of basic sanitary principles. Secondly, Board membership includes specialists in all areas of our authority. Lastly, we have begun a series of trips throughout the state for on-the-spot education.

The first trip was to Southwest Virginia, where we assembled in Abingdon and met with local physicians before leaving by bus for a tour of Dickenson, Wise, Buchanan and Russell counties. Our travels took us into the heart of the coal mining country, all the way to the Kentucky state line. The major focus of this trip was on environmental health concerns. More recently, we visited the Northern Neck-Middle Peninsula area, with emphasis on shoreline development factors that directly influence the shellfish industry. On each of these trips we witnessed firsthand the public health problems relating specifically to the area visited. The opportunity to spend several days with key Department staff will result, we are sure, in a better sense of unity and direction for the Board.

And the time involved? We make it available. For we realized soon after our first Board of Health meeting that this is no simple honorary job; rather, it carries awesome responsibility and is fraught with all sorts of potential controversy. We represent our profession at a time when efforts are being exerted to change dramatically the methods of delivery of health care services. We are resolved to carry forward our responsibilities in the best traditions of the profession and the Boards of Health which have preceeded us.

William R. Hill, MD,
Chairman
Clarence W. Taylor, Jr., MD,
Vice Chairman
W. Leonard Weyl, MD

We appreciate greatly the good offices of Rebecca Monroe in the preparation of this report.



Gathered together at a recent meeting of the Virginia State Board of Health are, seated left to right, William R. Hill, MD, the Board's chairman; Clarence W. Taylor, Jr., MD, vice chairman; Fostine G. Riddick, RN; and A. Gibson Howell, hospital administrator. Standing, from left, are Rebecca Monroe, staff assistant; Brig. Gen. James M. Morgan, Jr., engineer; Virgil H. Marshall, DDS; J. Curtis Nottingham, pharmacist; W. David Fletcher, DVM; W. Leonard Weyl, MD; and James B. Kenley, MD, who as Virginia's Commissioner of Health is the Board's secretary. Dr. Hill practices in Richmond, Dr. Taylor in Shawsville, Dr. Weyl in Arlington; all three are members of The Medical Society of Virginia—indeed, Doctors Hill and Weyl are MSV Past Presidents. Courtesy of *Virginia's Health.*

Medical Society of Virginia
Annual Meeting 1980
Williamsburg
November 6-9



MEETINGS ABOUT MEDICINE

These meetings are recommended by the Commission on Continuing Medical Education of The Medical Society of Virginia, Kinloch Nelson, MD, Coordinator. Address correspondence to him at 4205 Dover Road, Richmond VA 23221.

March 14-15
Selected Topics in Pediatrics (Eastern Virginia Medical School/Children's Hospital of the King's Daughters), *Norfolk.* Jean E. Shelton, MD, 800 W. Olney Rd., Norfolk VA 23507, (804) 628-3795.

March 21-23
Clinical Diagnosis and Management of Uveitis (Medical College of Virginia), Cascades Meeting Center, *Williamsburg.* 14¼ hrs. Cat. I. Dept. CME, Box 48, MCV Station, Richmond VA 23298.

March 21-23
Neurology for the Practicing Physician (Depts. of Neurology/CME, University of Virginia), *Charlottesville.* 16 hrs. Cat. I. Fee, $120. Office of CME, Box 368, UVa Medical Center, Charlottesville VA 22908, (804) 924-5318.

March 28-29
Assessment and Management of Common Behavior Problems of Childhood and Adolescence (University of Maryland), *Annapolis.* Betty Saar, (301) 528-3956.

April 2
Annual Clinical Conference of the Louise Obici Memorial Hospital, *Suffolk* Shrine Club. George J. Carroll, MD, PO Box 1100, Suffolk VA 23434.

April 9-11
Current Concepts of Clinical Infectious Diseases (University of Virginia and American College of Physicians), *Charlottesville.* Edward W. Hook, MD, University of Virginia School of Medicine, Charlottesville VA 22908.

April 11-12
Immunology and Immune Complexes: the 33rd Annual Stoneburner Lecture (Medical College of Virginia), *Richmond.* Kathy E. Johnson, Dept. CME, Box 48, MCV Station, Richmond VA 23298, (804) 786-0494.

April 11-13
Coronary Disease, Exercise Testing and Cardiac Rehabilitation (International Medical Education Corporation), *Williamsburg.* 13 hrs. Cat. I. Fee, $215. IMEC, Dept. 12, 64 Inverness Dr. East, Englewood CO 80112, (800) 525-8646.

April 12
Medical-Legal Symposium for Practicing Psychiatrists (University of Maryland School of Medicine), *Baltimore.* Betty Saar, 10 S. Pine St., Baltimore MD 21201, (301) 528-3956.

April 13-15
1st Annual International Colloquium: "A Scottish-Tidewater Exchange" (Eastern Virginia Medical School), *Norfolk.* 11 hrs. Cat. I. Emma R. Severance, PO Box 1980, Norfolk VA 23501, (804) 446-5859.

April 15
10th Annual Charles W. Thomas Lecture on Rheumatology by Dr. Eric G. L. Bywaters, London (Medical College of Virginia), George Ben Johnston Auditorium, *Richmond.* Shaun Ruddy, MD, Box 263, MCV Station, Richmond VA 23298.

April 16
11th Annual Symposium on Medicine and Religion: "Homosexuality: Sin, Sickness or Neither?" (Pastoral Care Service of Portsmouth Naval Hospital/Medical Society of Virginia), Naval Regional Medical Center, *Portsmouth.* Mrs. Peggy Buchanan, (804) 397-6541, Ext. 824.

April 18
Mood Disorders in Children (Children's Hospital National Medical Center and George Washington University Medical Center), *Washington DC.* Susan Weiss, Convention Services, Children's Hospital, 111 Michigan Ave. NW, Washington DC 20010, (202) 745-3000.

April 18
19th Annual Swineford Allergy Conference (University of Virginia), University of Virginia Medical Center, *Charlottesville.* Mrs. Mary Lou Currier, (804) 924-5318.

Meetings continued over.

PARTIAL CME CREDITS UNACCEPTABLE

The American Medical Association does not accept notice of partial credits for the Physician's Recognition Award. The entire 150 credits for the AMA-PRA must be recorded at one time. Registration of these complete credits may be made directly to the AMA or sent to The Medical Society of Virginia to be sent on to the AMA.

MEETINGS *continued*

April 21-24
American College of Physicians, 61st Annual Session, *New Orleans.* ACP, 4200 Pine St., Philadelphia PA 19104.

April 24-26
Congress in Medical Education (American Medical Association), *Chicago.* J. J. Fauser, 535 N. Dearborn St., Chicago IL 60610, (312) 751-6000.

April 24-26
Birdsong Pediatric Conference: General Pediatrics, Infectious Diseases, Neonatology, Endocrinology (University of Virginia), *Charlottesville.* J. Owen Hendley, MD, University of Virginia Medical Center, Charlottesville VA 22908.

April 25-27
2nd Annual Conference on Emergency Medicine for the Primary Care Physician (Medical College of Virginia), *Williamsburg.* 13 hrs. Cat. I. Fee, $150. Ms. Glenda Snow, Dept. CME, Box 48, MCV Station, Richmond VA 23298.

May 5-6
Medical Aspects of Sports: Symposium on Physical Therapy Rehabilitation of Atletic Injuries (University of Kentucky), Hyatt Regency Hotel, *Lexington, Kentucky.* Frank R. Lemon, MD, University of Kentucky College of Medicine, Lexington KY 40536, (606) 233-5161.

May 5-8
Diagnostic Radiology Update: 4th Annual Postgraduate Course (University of Virginia), Boar's Head Inn, *Charlottesville.* 16 hrs. Cat. I. Fee, $300. T. E. Keats, MD, Dept. of Radiology, UVa Hospital, Charlottesville VA 22908, (804) 924-2781.

May 6
Pediatric Ophthalmology (University of Maryland), *Baltimore.* Betty Saar, 10 S. Pine St., Baltimore MD 21201, (301) 528-3956.

May 7-10
61st Annual Meeting of the Virginia Society of Ophthalmology and Otolaryngology, Conference Center, *Williamsburg.* Donna Strawderman, 4205 Dover Rd., Richmond VA 23221.

May 11-16
11th Family Medicine Review, Session II (University of Kentucky) *Lexington, Kentucky.* Frank R. Lemon, MD, University of Kentucky, Lexington KY 40536, (606) 233-5161.

May 12-16
Radioisotope Techniques (North Carolina State University), *Raleigh, North Carolina.* Fee: $295. Jerome Kohl, PO Box 5125, Raleigh NC 27650, (919) 737-2303.

May 14
Rapidly Changing Areas in Cardiology: An Update (Medical College of Virginia), *Richmond* Academy of Medicine. 6 hrs. Cat. I. Fee, $65. Ms. Glenda L. Snow, Box 48, MCV Station, Richmond VA 23298, (804) 786-0494.

May 14-15
Continuing Medical Education Conference of the Virginia State Health Department, Best Western Mount Vernon, *Charlottesville.* 12 hrs. Cat. I. Bureau of Staff Development, James Madison Building, 109 Governor St., Richmond VA 23219, (804) 786-3165.

Annual Meeting, American Society of Internal Medicine, *Washington DC.* W. R. Ramsey, 2550 M St. NE, Washington DC 20037.

May 19-20
8th Annnual Hans Berger Day EEG Symposium (Medical College of Virginia), *Richmond.* Dept. of CME, Box 48, MCV Station, Richmond VA 23298, (804) 786-0496.

May 28-30
7th Annual Symposium on Recent Advances and Common Problems in Pediatrics (Children's Hospital National Medical Center/George Washington University Medical Center), *Washington, DC.* Lornice W. Greenberg, 111 Michigan Ave. NW, Washington DC 20010, (202) 745-5000.

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The entries in the Meetings about Medicine columns of this journal are a service to physicians and are presented without charge.

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Fredericksburg Medical Society

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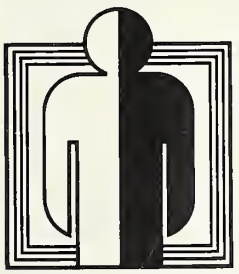
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VIRGINIA
MEDICAL
MARCH 1980

Hyperkalemia: Pathophysiology and Management

W. F. Falls, Jr., MD, *Richmond, Virginia*

Hyperkalemia, a potentially lethal electrolyte disturbance, is frequently encountered by the practicing physician. Multiple factors, including the level of renal function, acid base status, activity of the renin-angiotensin-aldosterone system, and the availability of insulin, normally interact to control the serum potassium concentration. The author approaches hyperkalemia as an aberration of one or more of these controlling factors and discusses appropriate therapeutic modalities.

HYPERKALEMIA is one of the most frequent fluid and electrolyte disturbances encountered by the practicing physician. Its development is often unheralded by warning signs or symptoms, and its effects may be lethal. The discussion to follow outlines the causes of hyperkalemia and reviews its appropriate management within a pathophysiologic framework.

From the Renal Section, Veterans Administration Medical Center, Richmond VA 23249. Address correspondence to Dr. Falls there.

This paper was presented at a McGuire Veterans Administration Medical Center Grand Rounds on January 19, 1979. It was funded by the Veterans Administration (MRIS2737—Project 10).

Submitted 6-12-79.

Pathophysiology

The healthy adult's body contains about 3500 mEq potassium, 95% of which is located intracellularly or in bone. Less than 1 mEq/Kg of body weight is located extracellularly and this moeity is freely exchangeable with the intracellular pool. Thus, potassium ions which have been newly introduced into the body initially enter a very small extracellular pool and later penetrate the larger intracellular pool. It is for this reason that the rate of intravenous potassium administration must be limited, even in the presence of hypokalemia (10 mEq/hr maximum without EKG monitoring). Additionally, one must always be certain that potassium-containing fluids are well mixed, particularly when using the newer plastic containers, or a sudden large bolus may be given with the first few milliliters of infusion.[1]

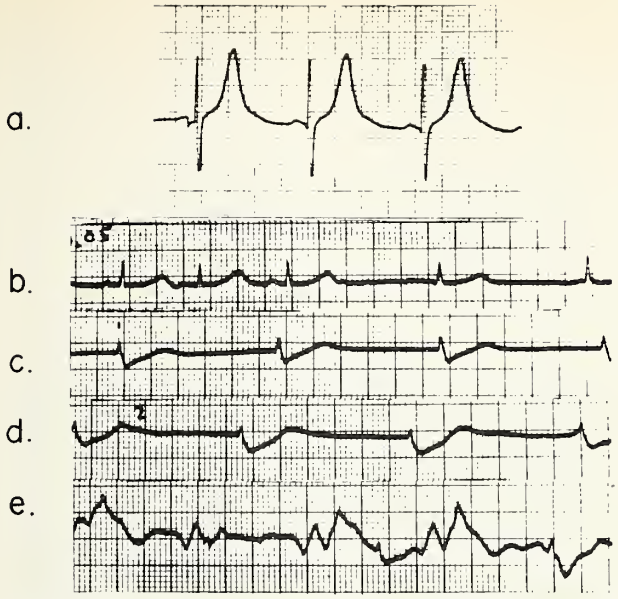


Fig. 1. Effects of hyperkalemia on the electrocardiogram: a) peaking of the T waves in the precordial leads of a patient with early hyperkalemia; b) decrease in amplitude of the P waves in another patient with hyperkalemia; c) disappearance of the P waves and widening of the QRS complex (same patient as panel b) as hyperkalemia progresses; d) further prolongation of the QRS complex with beginning development of a sine wave pattern; e) terminal disorganization of ventricular depolarization secondary to severe hyperkalemia.

The ratio of intracellular to extracellular potassium concentration is of critical importance in maintaining the electrical integrity of neuromuscular membranes, particularly those of the heart. In the intact organism the effects of changes in serum potassium concentration are complex. Concentrations greater than 7.0 mEq/l may be associated with depression of excitability and conduction velocity while the effects are transiently opposite in the 5-7 mEq/l range.[2] The effects of hyperkalemia are perhaps most dramatically illustrated by the changes which it induces in the electrocardiogram. With progressive hyperkalemia, peaking of the T waves and lengthening of the QRS interval is noted initially. Thereafter, peaking of the T waves becomes more prominent as the P waves decrease in amplitude. Ultimately the QRS becomes very wide and the ST segment fuses with the T wave resulting in a terminal sine wave pattern (Fig. 1). It is important to realize that early on, flat or inverted T waves secondary to intrinsic cardiac disease or drugs may be "normalized" by the development of hyperkalemia.

The major clinical manifestations of hyperkalemia relate to dysfunction of either the cardiac or skeletal muscle. Rarely, paralysis of the skeletal muscles may precede cardiac abnormalities. On occasion, symptoms of nausea and vomiting secondary to a paralytic ileus may herald the presence of hyperkalemia. Of interest is the recent observation that hyperkalemia may induce varying degrees of heart block.[3] This problem is particularly likely to occur in the presence of preexisting conduction disease. A clinical corollary of these findings is that the administration of potassium in the treatment of digitalis intoxication must be used with caution.

The serum potassium concentration is maintained in the normal range by several influences (Fig 2). One of the most important of these is the energy depending, Na^+-K^+ ATPase activated, ouabain sensitive, ion pump in the membrane of each cell. There is an inherent tendency for potassium and sodium to move down their respective concentrating gradients, potassium tending to leak out of, and sodium into, the cell. The pump counters this effect, moving potassium into, and sodium out of, the cell. This is a dynamic process and any disturbance in the pump could theoretically result in hyperkalemia. Such has been offered as the explanation for the hyperkalemia experienced by patients with massive digitalis intoxication following ingestion with suicidal intent.[4] At therapeutic levels digitalis glycosides probably do not completely inhibit the pump.

There is now abundant evidence to indicate that

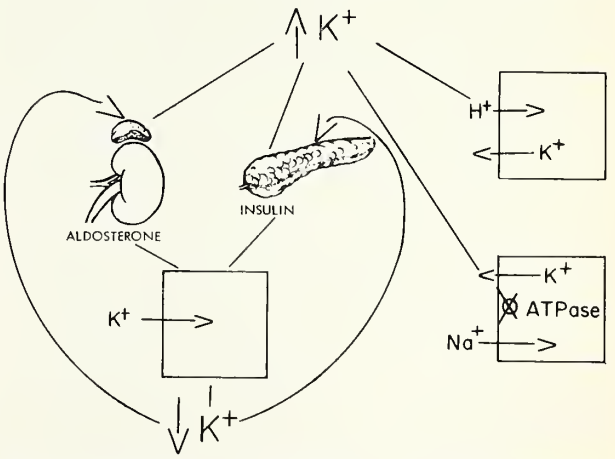


Fig. 2. Schematic representation of factors influencing transcellular movement of potassium. Left side of figure shows hyperkalemia directly stimulates release of insulin and aldosterone; these in turn facilitate shift of potassium into cells; resultant decline in serum potassium then inhibits release of both hormones. Upper right hand side of figure shows tendency of potassium to shift out of cells in exchange for hydrogen ion, with resultant hyperkalemia. At lower right is displayed tendency for potassium to leak out of cells, with development of hyperkalemia when ATPase-sensitive exchange pump is inhibited.

insulin facilitates movement of potassium, glucose and phosphate into cells. Additionally, hyperkalemia stimulates insulin release and hypokalemia inhibits it. Thus, glucose intolerance may be seen with hypokalemia.

Adrenalectomy inhibits the ability of animals adapted to an increased potassium intake to transport administered potassium intracellularly.[6] This indicates that aldosterone may play at least a permissive role in transcellular potassium movement. Hyperkalemia is a primary stimulus to aldosterone production but a suppressant to renin release.[7] It is likely that a complex system involving negative feedback loops for both insulin and aldosterone is of importance in regulating the serum potassium concentration (Fig. 2).

Acidosis induces hyperkalemia by causing an intracellular shift of hydrogen in exchange for potassium ions and alkalosis has the converse effect. Of interest is the observation of Fraley and Adler[8] that alterations in the serum bicarbonate concentration, irrespective of the arterial pH, may influence serum potassium concentration. Thus, an increase in serum bicarbonate concentration, per se, may be associated with a decrease in serum potassium concentration.

About 10% of ingested potassium may appear in the stool each day. Some of this is probably secreted in the colon and this moiety of potassium loss can be enhanced by mineralocorticoid administration. Clearly, part of the adaptive mechanism for the maintenance of a normal serum potassium concentration in renal insufficiency is an increase in bowel potassium excretion.[9]

Normally, the kidney is the major regulator of external potassium balance, excreting about 90% of the daily intake.[10] As such it is the primary organ responsible for the modulation of the serum level. Potassium is thought to be freely filterable at the glomerulus and to be virtually completely reabsorbed by the end of the proximal tubule. Potassium secretion occurs in the distal portion of the nephron and is influenced by both the concentration gradient across the luminal membrane of the tubular cell and the magnitude of the negative transtubular potential difference. The steepness of the concentration gradient is a function of peritubular potassium transport, which in turn is influenced by the acid-base status, the serum potassium concentration, and the level of membrane ATPase activity. The transtubular potential difference is determined by the electronegativity of the anions in the tubular fluid and the activity of the sodium reabsorptive mechanism. Aldosterone provides the driving force for sodium reabsorption and, thus, contributes in a major way to the transtubular potential difference. In addition, there seems to be a reciprocal relationship between potassium secretion and ammonia production. Thus, with hyperkalemia the urine tends to have a lower pH and contains less ammonium. Except in the depleted state, secretion of potassium seems to be flow dependent, being markedly increased at high flow rates. These factors are schematically illustrated in Figure 3.

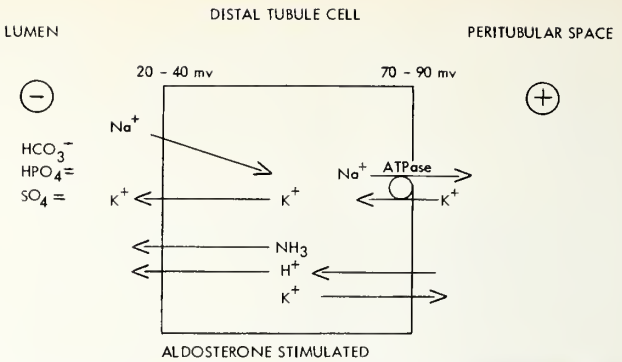


Fig. 3. Schematic representation of factors influencing po tassium secretion from the distal tubule. Potential difference exists across cell membrane with lumen negative, this influenced by anions in lumen and by transcellular movement of sodium. Sodium moves passively across lumenal cell border and is then actively extruded from peritubular border by ATPase-sensitive pump. Potassium is pumped into cell across peritubular membrane and then diffuses down its electro-chemical gradient into lumen. Lower portion of figure shows ammonia and hydrogen ion also tending to diffuse into lumen, competitive with potassium.

Aldosterone secretion is controlled by the renin angiotensin system, by the level of ACTH, and by the level of serum potassium itself. Thus, the level of aldosterone will be influenced by both volume status and the degree of hyperkalemia.

Causes of Hyperkalemia

Hemolysis during or after blood sampling is usually noted by the laboratory technician when the serum is extracted after clot retraction. Nevertheless, one must always consider this as a possible cause when evaluating a report of unexpected hyperkalemia. Occasionally, excessive amounts of potassium may be released during the coagulation process in patients with thrombocytosis or marked leukocytosis.[11] This can be determined easily by comparing the plasma and serum potassium concentrations. Normally the serum level should be no more than 0.5 mEq/l higher than the plasma.

In the absence of renal hypoperfusion, acidosis, potassium-sparing diuretics, insulin deficiency, mineralocorticoid deficiency, or renal insufficiency, large

Table 1. Causes of Hyperkalemia.

1. Artifactual
   a. Hemolysis
   b. Increased release during coagulation
      (1) Thrombocytosis
      (2) Leukocytosis
2. Increase potassium load (usually associated with renal insufficiency or interference with transcellular transport)
   a. Oral
   b. Intravenous
   c. Rapid lysis of malignant cells (Burkitt's lymphoma)
3. Interference with transcellular transport
   a. Acidosis
   b. Decreased ATPase activity
   c. Insulin deficiency
   d. Aldosterone deficiency
   e. Familial hyperkalemic paralysis
   f. Hyperosmolality
   g. Depolarizing muscle relaxants
   h. Cationic amino-acid infusion
4. Decreased renal excretion:
   a. Adrenal insufficiency
   b. 21-hydoxylase deficiency
   c. Corticosterone methyl oxidase deficiency
   d. Long-term heparin administration
   e. Potassium-sparing diuretics
   f. Acute and chronic renal failure
   g. Selective hypoaldosteronism
      (1) Huporeninemic hypoaldosteronism
      (2) Enzymatic defect in aldosterone production
      (3) End-organ unresponsiveness to aldosterone

dietary potassium loads can usually be handled without difficulty. When any of the above-mentioned factors are present, however, dangerous hyperkalemia may occur with oral loading. On occasion, massive release of potassium from rapidly destroyed malignant cells, Burkitt's lymphoma,[12] has been reported to cause hyperkalemia, even in the presence of normal renal function. In the presence of renal insufficiency, increased loads from oral or intravenous sources, blood transfusions and potassium-containing drugs may present a significant problem. In a recent study by Lawson et al,[13] of 4,921 patients receiving potassium chloride supplements, adverse reactions were seen in 5.8%, with hyperkalemia being the most common problem. Seven deaths occurred in this series. Caution is obviously suggested in the use of this drug in patients with limitation in either transcellular transport or urinary excretion. A similar statement could be made about the so-called "salt substitutes" which contain potassium salts. A recently described bizarre source of excessive potassium intake is the ingestion of clay, geophagia. Careful studies by Gelfand et al[14] have demonstrated that riverbed clay may contain 100 mEq potassium or more for each 100 grams clay.

As mentioned earlier, a major component of the tissue buffering of increased hydrogen ion in either metabolic or respiratory acidosis involves a transcellular shift of this ion in exchange for sodium and potassium. The increase in extracellular sodium is not appreciable but potassium elevation may be striking. Clinically, one can expect an increase in potassium of 0.6-1.0 mEq/1 for each 0.1 unit decline in pH.

Some evidence suggests that chronic ingestion of a high potassium diet leads to stimulation of cellular ATPase activity, which in turn allows such a chronically challenged individual to handle a potassium load with the induction of minimal hyperkalemia.[6] Thus, the chronically potassium-depleted animal may handle a large bolus of intravenous potassium poorly. As mentioned earlier, the digitalis glycosides may also suppress ATPase activity and interfere with the handling of a large potassium load.

Numerous recent reports describe the propensity of insulin deficient diabetics to develop hyperkalemia, particularly during episodes of hyperglycemia[15] (vide infra). Controversy exists as to whether or not concomitant hypoaldosteronism is necessary for this phenomenon to occur; but clearly, the presence of both insulin and aldosterone deficiency puts the patient in greater jeopardy than either alone.

Hyperkalemic periodic paralysis is a rare congenital disorder characterized by myotonia and episodic periods of hyperkalemic weakness following vigorous exercise.[16] This disorder seems to be caused by an ill-defined defect in transcellular movement of potassium. During the periods of paralysis, intracellular concentrations of potassium are reduced and the influx of the ion into the cell is decreased, suggesting that a defect in the $NA^{+}-K^{+}$ pump exists. Recently, Wang and Clausen[17] have been able to correct the membrane defect by the administration of the beta adrenergic agent, salbutamol. Previously, most patients have been treated with acetazolamide, which may have a somewhat similar effect, although its major action is probably to cause increased urinary potassium excretion.

An increase in the osmolality of the extracellular fluids as may be seen with an increase in the blood glucose concentration or by the infusion of an exogenous substance like mannitol may enhance the outward diffusion of potassium with concomitant hyperkalemia.[18] The mechanism causing this is not well understood but probably relates to some alteration in membrane permeability or interference with the exchange pump. A somewhat similar phenomenon may be seen with the administration of certain depolarizing agents, such as succinyl choline, when they are administered to patients with extensive trauma,

burns, or neuromuscular disease.[19] An infusion of the cationic amino acid, arginine, may also lead to hyperkalemia by displacing intracellular potassium.[20]

Patients with Addison's disease tend to have a mild hyperchloremic acidosis and volume contraction. Both of these factors may accentuate a tendency to hyperkalemia emanating from the mineralocorticoid deficiency. Hyperkalemic paralysis has been reported in Addison's disease.[21] Isolated defects along the biosynthetic pathway of aldosterone also may result in hyperkalemia. Children with a deficiency of the 21-hydroxylase enzyme are recognized because of the concomitant association of sodium wasting and virilization. Both cortisol and aldosterone are deficient and renin activity is elevated in these children. Recently a group of children with salt wasting, low aldosterone levels, and an accumulation of corticosterone but not 18-hydroxycorticosterone, have been identified as having Type I, corticosterone methyl oxidase deficiency.[22] Patients with Type II corticosterone methyl oxidase deficiency have been identified by Rosner et al[23] and present with varying degrees of sodium wasting and hyperkalemia, decreased aldosterone levels, elevated plasma renin activity, and elevated levels of 18-hydroxycorticosterone. Long-term administration of heparin has been shown to depress aldosterone production. Wilson reported such a patient with salt wasting and hyperkalemia who displayed decreased aldosterone levels, elevated renin activity and elevated levels of 18-hydroxycorticosterone.[24]

The potassium-sparing diuretics, spironolactone, triamterene, and amiloride, selectively inhibit sodium reabsorption in the distal portion of the nephron and as a consequence limit potassium and hydrogen ion secretion in this area. In patients with normal renal function and an intact transcellular mechanism for transporting potassium, these drugs seldom cause clinically significant hyperkalemia. However, a potentially lethal elevation of the serum potassium concentration may be seen when they are given to patients with a tendency to acidosis, insulin deficiency, volume depletion, or a decreased glomerular filtration rate.

An acute loss of renal function is frequently associated with the rapid development of hyperkalemia. The causes for this are probably multiple and include the contributions of the usually associated acidosis and tissue breakdown.

In both experimental animals and in man with chronic renal disease, the fractional excretion of potassium increases as glomerular filtration rate declines. The nature of this adaptive process is incompletely understood, but may relate to enhanced ATPase activity at the level of the collecting duct cell and probably requires the presence of appreciable levels of circulating aldosterone.[25] In far advanced renal failure, this adaptation may occur so successfully that net potassium secretion occurs. In addition to this renal mechanism, potassium loss in the stool may be considerably enhanced. Transcellular transport of potassium is also probably increased in chronic renal disease because potassium loads are tolerated more successfully by animals with chronic, as opposed to acute renal, disease. Thus, the ability to handle potassium is frequently the last function lost by the patient with chronic disease, and the serum potassium concentration may be maintained normal down to a clearance level of less than 5 ml/min.

In recent years a number of patients with hyperkalemia disproportionate to their degree of renal insufficiency have been identified. The inadequate adaptation in this group of patients is probably related to several different pathogenetic mechanisms. Collectively, this group has been placed under the diagnostic umbrella of "selective hypoaldosteronism"[26], although, as we shall see subsequently, aldosterone determinations in certain of these may be normal. Clinically, such patients tend to be hypertensive, older, and frequently have a concomitant hyperchloremic acidosis. Several pathophysiologic processes have been noted among the patients. Foremost among these is primary hyporeninism, which is recognized by the presence of low, non-stimulating renin activity and low aldosterone levels. The low renin activity seems to be related in most patients to inadequate renin production,[27] but has also been attributed to the production of an abnormal, inactive, "big" renin.[28] Many of these patients have had diabetes mellitus. The low renin activity in one patient has been corrected by lowering the serum potassium with sodium polystyrene sulfanate (Kayexalate®), suggesting that the low renin activity was a reflection of a primary renal defect in potassium secretion.[29] It is also noteworthy that some patients have probably had suppression of the renin-aldosterone system because of chronic volume expansion.[30] In this group, restoration of the volume to normal corrects the metabolic abnormality. Some patients seem to have a primary defect in aldosterone synthesis. These patients are recognized by their high plasma renin activity but low aldosterone levels. The nature of the aldosterone synthetic defect is poorly understood and has not been clearly localized at any specific biosynthetic step.[31] Some patients with the typical clinical picture may have high renin and aldosterone levels, suggesting end-organ unresponsiveness to aldoste-

rone as the cause of their problem. This picture has been best described in lupus erythematosus[32] but undoubtedly occurs in other disorders as well. The patient with end-organ unresponsiveness is recognized by normal renin and aldosterone levels and the inability to increase potassium excretion in response to mineralocorticoid administration, to sodium sulfate infusion, or acetazalamide administration.

Management

The management of hyperkalemia can be divided into two phases, short-term, or emergency treatment, and long-term, or chronic treatment. On an emergency basis, the patient with EKG evidence of hyperkalemia should immediately be given 1–3 ampules of 10% calcium gluconate or calcium chloride intravenously in order to stabilize the cardiac muscle membrane. Acutely, enhancement of the intracellular shift of potassium can be attained by an infusion of sodium bicarbonate intravenously, the administration of insulin alone if the patient is a diabetic with hyperglycemia, or the administration of glucose and insulin (500 ml 10% glucose with 10 units of regular insulin over 30 minutes) in the patient who is not hyperglycemic and diabetic.

Potassium removal from the body may be enhanced by the administration of sodium polystyrene sulfanate, 40 Gm with 30 cc 70% Sorbitol by mouth, repeated as necessary or 40–60 Gm in 100 cc of water by enema. Approximately 1 mEq of potassium for each gram of resin can be removed in this fashion. Appreciable quantities of sodium are absorbed in the process of potassium exchange and the potential for sodium overload must be considered when using this agent. Furosemide or a thiazide diuretic with a large sodium intake, either orally or intravenously, will also enhance potassium excretion. Dialysis, either hemodialysis or peritoneal, when performed against a dialysate that contains zero potassium, will also be effective. Cardiac pacing may be indicated if heart block occurs.

Chronically, potassium may be reduced by the removal of excess loads in the form of medication or salt substitutes and with proper selection of foods. It is impractical to reduce the dietary potassium intake below 40 mEq per day, however. In patients who have chronic metabolic acidosis, the administration of sodium bicarbonate may correct the acidosis and concomitently reverse the hyperkalemia. Mineralocorticoid supplementation is usually not necessary in Addison's disease if sodium intake is large and glucocorticoid supplement is adequate. Occasionally, 9 α fludrocortisone (Florinef ®) supplementation will be necesary (0.1–0.3 mg/24 hours). This agent may be very effective in patients with selective hypoaldosteronism. Its exact role in the latter group is uncertain; however, and remains to be clearly defined. Thiazide diuretics may also be helpful in conditions where there is sluggish distal tubular flow, as in congestive heart failure. Sodium polystyrene sulfanate (Kayexalate®) is seldom indicated on a chronic basis and is very unappetizing.

Acknowledgment

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Clinicopathologic Conference: Pulmonary Hypertension With Hepatic Disease

From the University of Virginia School of Medicine.
Case Presentation by Robert S. Gibson, MD.
Clinical Discussion by Dudley F. Rochester, MD.
Pathology Discussion by Benjamin C. Sturgill, MD.



Presentation of Case

Dr. Robert Gibson: A 50-year-old white male was admitted to the University of Virginia Hospital because of acute loss of consciousness, with urinary incontinence. He had a long history of ethanol abuse with frequent binges until five years prior to admission, when he curtailed his drinking after an episode of icteric hepatitis. Hypertension had been discovered several years earlier and was treated with propranolol and triamterene/hydrochlorothiazide. For approximately two years, he had noted intermittent pedal edema and fleeting, exertionally related chest pain. His past medical history was also remarkable for a 25-pack-year smoking habit and an episode of anaphylaxis (cardiopulmonary arrest) to IVP dye in 1974.

He was otherwise well until one week before admission, when he began experiencing dyspnea and fatigue. Two days before admission, he experienced 1–2 hours of sharp retrosternal chest pain, which radiated widely across the precordium. The pain was associated with moderately severe dyspnea and diaphoresis but no nausea, vomiting, palpitations, or light-headedness. He began drinking heavily in hopes of alleviating his symptoms. On the day of admission, a friend noted that he lost consciousness suddenly. No seizure activity was observed, but he was incontinent of urine. Upon arousal, he was confused but had no specific complaints.

On physical examination, the patient was obese and in mild respiratory distress. The temperature was 37.4°C, the pulse 120 and regular, respirations 34. The blood pressure was 128/84 mmHg without orthostasis. Clubbing was noted in all four extremities. Fundoscopic examination was normal. There were diffuse expiratory wheezes and scattered bibasilar rales. The jugular venous pulse was elevated to 6 cm at 45°. S_1 was normal and S_2 split. There was an S_4 gallop. Peripheral pulses were present, but capillary

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refill was notably delayed. The abdomen was obese but otherwise unremarkable. There was 2+ ankle edema. Mental status was normal and there were no focal neurologic signs.

Initial laboratory data revealed: Hematocrit 47%, white blood cell count 10,700/mm^3 with 81% neutrophils, 17% lymphocytes, and 2% monocytes. Prothrombin time was 15.5 sec (control 12.5 sec), partial thromboplastin time normal at 25.6 sec, and platelet count 101,000. The sodium was 141 mEq/dl, potassium 4.8 mEq/dl, chloride 100 mEq/dl, and HCO_3 12 mEq/dl. Glucose was 91 mg, urea nitrogen 27 mg, and creatinine 1.2 mg. Blood lactate was 8.1 mEq/l (normal < 2.2), and blood alcohol level was 0.18 gm/dl. The urinalysis was unremarkable. Arterial pH was 7.37 with oxygen tension (pO_2) of 78 and carbon dioxide tension (pCO_2) of 27 mmHg. Sinus tachycardia, incomplete right bundle branch block, and anterior-inferior changes consistent with ischemia were seen on the electrocardiogram. Chest films demonstrated mild cardiomegaly, multiple old rib fractures, and prominent pulmonary arteries. Creatine phosphokinase (CPK) was 148 IU/l (normal < 110), serum glutamic oxalacetic transaminase (SGOT) was 66 IU/l (normal < 30), and lactic dehydrogenase (LDH) was 667 IU/l (normal < 350).

The patient was admitted to the coronary care unit. He was placed on 28% oxygen and given digitalis, furosemide, and aminophylline. A prophylactic transvenous pacemaker was inserted. The CPK peaked at 168 IU/l and both the MB and LDH isoenzymes were consistent with myocardial necrosis. Over the next 36 hours, congestive heart failure was thought to develop and he was given more furosemide and put on 40% oxygen. At that time, a Swan-Ganz catheter was inserted, and hemodynamics revealed mean right atrial (RA) pressure of 9 mmHg, right ventricular (RV) pressure of 76/12 mmHg, pulmonary artery (PA) pressure of 80/42 mmHg, mean PA pressure of 63 mmHg, pulmonary capillary wedge pressure of 10 mmHg, and cardiac index of 3.5 l/min/m^2. Heparin was begun for a possible pulmonary embolus, but a subsequent lung scan demonstrated matching ventilation and perfusion defects. A pulmonary angiogram was not done because of the patient's history of dye allergy. Upper gastrointestinal bleeding developed on heparin but ceased with administration of protamine. Thereafter, low-dose heparin, cimetidine, and antacids were instituted. An upper GI series was normal; no varices were seen.

On the third hospital day, alcoholic withdrawal with delirium developed; after a normal CT scan and lumbar puncture, he was treated with diazepam, folate, and thiamine, and he improved. By the fourth hospital day, his cardiovascular status had stabilized, but there was no change in pulmonary hemodynamics. He was weaned off supplemental oxygen, and the pacemaker and Swan-Ganz catheter were discontinued. An echocardiogram was normal. All assays for collagen vascular disease were negative. At the end of his first hospital week, a gated heart pool scan showed an enlarged right antrium, right ventricle, and pulmonary conus. The transit time was 8 sec (normal 9 ± 2 sec), the left ventricle was small, and the ejection fraction was 90%. At this time, there was some doubt about whether the patient had suffered significant myocardial necrosis. The electrocardiogram had not changed appreciably.

During his second hospital week, the patient's bilirubin rose to 8.2 mg/dl (50% conjugated) and he developed diarrhea and fever to 38.6°C. Physical exam at this time was unremarkable except for an accentuated P_2 and pedal edema. The SGOT, SGPT, and alkaline phosphatase were normal, and the only source of infection found was in the urine (*E coli* greater than 10^5). Hepatitis B surface antigen (HBsAg) was negative. Oral ampicillin, 500 mg qid, was given.

Over the next week, his bilirubin decreased to 1.6 mg/dl and his diarrhea ceased, but a low-grade fever persisted. Suddenly, his temperature spiked to 40.3°C coincident with development of orchitis and epididymitis (patient had Foley catheter in place). A search for alternate sources of infection was negative. He was treated with phenylbutazone, 100 mg orally tid, ampicillin, 3 gm IV q 6 hr, and tobramycin, 120 mg IV q 8 hr, with gradual resolution of fever and testicular pain.

He underwent a second right heart catheterization. The mean RA pressure was 8 mmHg and RV pressure was 110/12 mmHg. The catheter could not be passed into the pulmonary artery. A second gated heart pool scan revealed an enlarged right atrium and right ventricle, a transit time of 14 sec, a small left ventricle, and an ejection fraction of 80%.

During the fourth hospital week, hyperbilirubinemia recurred (up to 15.8 mg/dl with 40% conjugated). He remained afebrile on antibiotics and his physical exam was unchanged. The liver was firm but neither enlarged nor tender. SGOT was 84 IU/1, SGPT 51 IU/1, and alkaline phosphatase 216 IU/1. The albumin had decreased to 2.5 mg/dl. Guiac positive stools developed, but, although his hematocrit decreased by 3%, he did not require transfusion. On the day of death, proctoscopy was performed and showed no lesions. Approximately two hours later, the patient was found pulseless and apneic in bed. Initial rhythm was ventricular fibrillation. He could not be resuscitated.

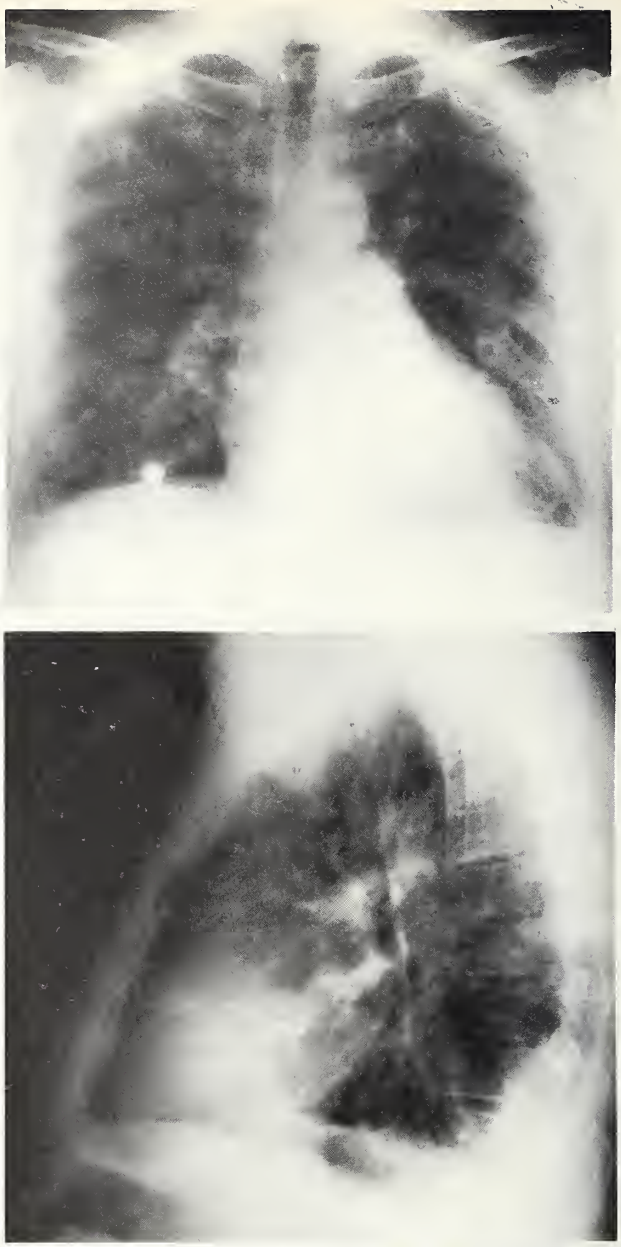
Clinical Discussion

Dr. Dudley Rochester: This 50-year-old man with a history of only mild cigarette smoking had clinical and hemodynamic evidence of severe pulmonary hypertension. The patient appeared to have had a heavy alcohol habit and prior liver disease. During his hospital course, he had two episodes of painless hyperbilirubinemia, perhaps associated with fever, and progressively more severe pulmonary hypertension that resulted in cardiac failure. He died with ventricular fibrillation. Dr. Dee will describe the chest radiographs.

Dr. Paul Dee: These are the chest x-rays taken at the time of the patient's admission (Figures 1a and 1b). With some difficulty you can see the healed rib fractures on the left side; these are presumably one result of his alcoholic habits. The heart is enlarged and the pulmonary arteries are prominent, particularly centrally. In the periphery of the lung, the vessels are attenuated. These are the basic features of pulmonary arterial hypertension. On the lateral film, I think you can appreciate that, while the left ventricle is not particularly prominent, there is considerable filling in of the retrosternal space by the heart, which indicates that there is right ventricular enlargement. There is no pulmonary venous congestion. Also, there is a left pleural effusion.

Dr. Rochester: The combination of sudden loss of consciousness, chest pain, and a grossly abnormal electrocardiogram led the clinicians to make an initial diagnosis of acute anteroseptal myocardial infarction. The only thing that did not fit with this picture at the outset was his admission chest film, which demonstrated the changes consistent with pulmonary hypertension. The presence of clubbing suggests that this may have been a chronic problem. Nevertheless, during the first 36 hours of hospitalization, the patient was managed as if his major problem were an acute myocardial infarction.

When congestive heart failure was thought to have developed, a Swan-Ganz catheter was inserted. The information yielded by the Swan-Ganz completely changed the picture. The left ventricular filling pressure, as evident from the pulmonary capillary wedge (PCW) pressure, was 10 mmHg and the pulmonary artery pressure was extraordinarily high, 80/42 mmHg with a mean of 63 mmHg. Since the PCW pressure is normal, the pulmonary hypertension cannot be explained on the basis of left atrial or left ventricular disease. Clearly, the main problem here is to be found in the pulmonary circulation. Since the question of pulmonary embolic disease came up, lung scans were done. Dr. Dee, may we now see the perfusion and ventilation scans?



Figs. 1a (above) and 1b (below). Radiographs of the chest showing prominent pulmonary arteries and right ventricular enlargement.

Dr. Dee: Here are some of the frames from the perfusion scan (Fig. 2). There are a lot of defects in the lungs. However, the ventilation scan (Fig. 3) shows defects in the same areas. As far as we could determine, the perfusion defects and ventilation defects matched. Consequently, we felt that this patient had a low probability of having pulmonary emboli.

Dr. Rochester: At this point, I would like to look closely at the electrocardiogram (Fig. 4). We have been told that the serial electrocardiogram did not change much throughout this patient's hospital stay. Although the initial EKG was suspicious for an

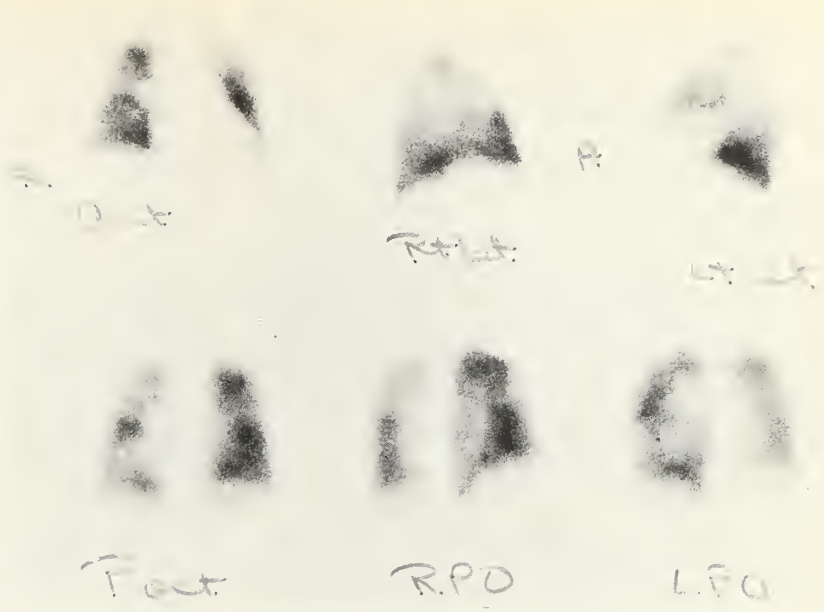


Fig. 2. Lung scan showing matching perfusion defects.

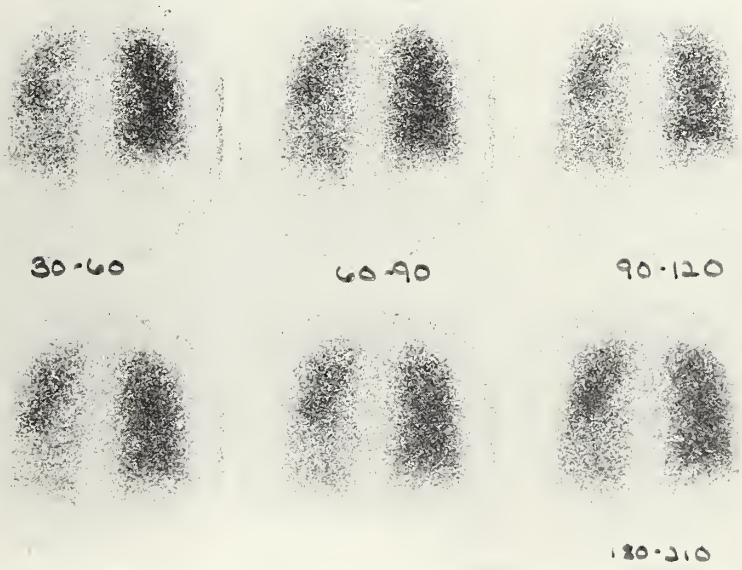


Fig. 3. Lung scan showing matching ventilation defects.

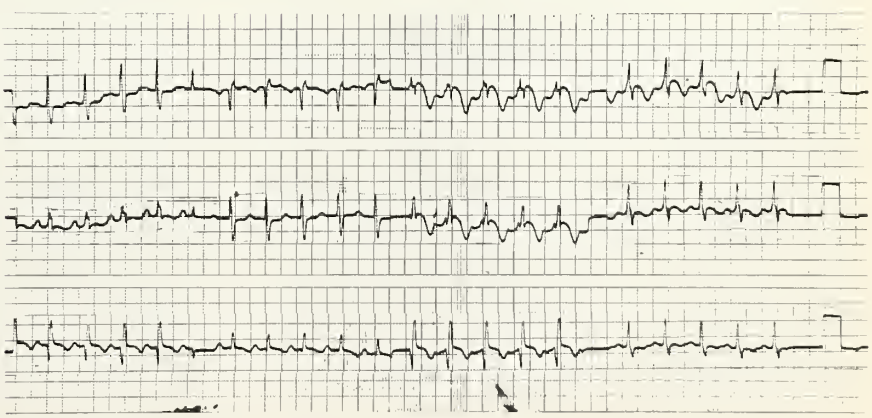


Fig. 4. Electrocardiogram.

acute anteroseptal myocardial infarction, there are several features which suggest acute right ventricular strain combined with right ventricular hypertrophy. The RSR' in lead V_1 is consistent with right ventricular hypertrophy and the T-wave inversions are compatible with a strain pattern.

Somewhat unexplained are the rise and fall of this patient's cardiac enzymes, suggesting myocardial necrosis. I think that sometimes there are transient insults to the myocardium during which enzymes leak out of the tissues; these resolve and one never sees definite infarction. I believe that the acute right heart strain in this patient caused the enzyme elevation, with these enzyme changes reflecting minor right ventricular cell injury, not a classic acute myocardial infarction.

The gated heart pool scan results, showing a left ventricle of normal size which emptied properly, lend additional support: an ejection fraction of 90% certainly would mitigate against a recent myocardial infarction. The transit time between the left and right ventricle in the first gated heart pool scan was 8 seconds—the normal value is 9 ± 2 seconds. At this time, then, the patient's cardiac function was in a compensated state. This was substantiated by a cardiac index of 3.5 liters per minute.

Later, nearer the time of death, the patient's second gated heart pool scan showed the mean transit time prolonged to 14 seconds. We can infer from this increase in transit time that the cardiac output was lower and that cardiac function had deteriorated in the two weeks since the first scan was done. The second right heart catheterization showed a considerably higher systolic pressure in the right ventricle; this would have been seen in the pulmonary artery as well. I suspect that the pulmonary artery pressure was not obtained because poor flow—that is, right ventricular failure—prevented the passage of the catheter from the right ventricle into the pulmonary artery.

Neither the reason for the patient's deterioration nor the cause of his progressive pulmonary hypertension is clear, but I am somewhat suspicious of his recurrent hyperbilirubinemia and I wonder whether his liver disease and pulmonary hypertension are in any way related.

I would like to consider the causes of pulmonary hypertension and then attempt to associate hepatic injury, especially cirrhosis of the liver, with pulmonary vascular disease. Pulmonary hypertension is due either to an increased resistance in the precapillary vessels or to an obstruction in pulmonary venous outflow. Changes in the pulmonary arteries or arterioles leading to increased resistance may be either functional or organic. An example of a functional cause is vasoconstrictive pulmonary hypertension with alveolar hypoxia as a prototype. Alveolar hypoxia may be seen in people at high altitudes or it may occur in any of the diseases which predispose to chronic respiratory failure, such as chronic obstructive lung disease, obesity hyperventilation syndrome, kyphoscoliosis, or neuromuscular disease. Acidemia by itself can also cause alveolar vasoconstriction and pulmonary hypertension.

Examples of organic causes of increased precapillary resistance include thromboemboli, obliterative intimal fibrosis as observed in congenital heart disease with Eisenmenger's physiology, and various diffuse parenchymal lung diseases. Many diffuse lung diseases result in extensive dstruction and remodeling of lung structure, causing fibrosis and substantial impingement on and reduction in the cross-sectional area of the pulmonary vascular bed. Specific examples include emphysema, pulmonary fibrosis, pulmonary granulomatosis, miliary carcinomatosis due to lymphangitic or hematogenous dissemination or adult respiratory distress syndrome. Diseases like this have to destroy at least two-thirds of the pulmonary vascular bed to cause pulmonary hypertension. I would like to point out that most of these diseases manifest themselves in the parenchyma of the lung on chest x-ray. The chest x-ray in today's patient was negative.

Emboli lodged in the pulmonary arteries may cause increased pulmonary artery resistance and pressure. The mean pulmonary artery pressure is, however, rarely greater than 30-40 mmHg, even with massive emboli.[1] The normal right ventricle, with its thin walls, simply cannot tolerate a mean pulmonary artery pressure higher than approximately 40 mmHg; if the mean pressure exceeds this limit, the right ventricle dilates and fails, causing sudden death. We cannot consider an acute embolus as the sole cause of the pulmonary hypertension in this patient, because his mean pulmonary artery pressure was much too high initially—on the order of 63 mmHg—and became even higher later.

Chronic recurrent thromboembolic pulmonary hypertension does, however, deserve consideration. Quite clearly, the hemodynamic data are consistent with this diagnosis.[2] This diseease may be silent and the pulmonary hypertension may go unexplained during clinical observation. The difficulty in making this diagnosis is considerable, and many, if not most, cases are not recognized until autopsy. The clinical course in patients with chronic thromboembolic pulmonary hypertension may be protracted, lasting as long as nine years. In patients with recurrent embo-

lism to large pulmonary arteries, there is often a step-like clinical course with isolated acute episodes of dyspnea and chest pain and intervening periods which are virtually symptom-free. In contrast, that type of thromboembolism most likely to be confused with primary pulmonary hypertension is characterized by insidious onset and an unrelentingly progressive course of dyspnea.[3,4]

I should mention other causes of pulmonary vascular disease, such as sickle cell disease, schistosomiasis, echinococcosis, arteritis, and scleroderma, but there is nothing in this case to suggest any of these diagnoses.

When discussing the cardiac causes of pulmonary hypertension, it is helpful to classify them as passive or reactive. Passive causes include left ventricular failure of any cause and a variety of other lesions which impede pulmonary venous outflow, such as mitral stenosis, left atrial tumor, cor triatrium, and pulmonary venous stenosis. The normal PCW pressure in this patient essentially excludes any of these diagnoses. Reactive causes include the so-called over-circulation lesions which occur in congenital heart diseases associated with shunts, i.e., atrial septal defect, ventricular septal defect, patent ductus arteriosus, and aortopulmonary windows. Although oximetry was not done during this patient's catheterization, we have no evidence that he had anatomic heart disease which could have accounted for his pulmonary hypertension.

Now, what about the association of liver disease and lung disease? The triad of cyanosis, hepatic cirrhosis, and finger clubbing has become well-known since Flückiger first described it in 1884. A low pO_2 is frequently seen in patients with chronic liver disease; it is usually in the range of 60-80 mmHg and rarely is less than 50 mmHg.[5] The major physiologic mechanisms causing the hypoxemia include shifts to the right in the oxyhemoglobin dissociation curve, ventilation-perfusion abnormalities, and pulmonary venoarterial shunting. Cirrhosis and chronic hepatitis have been associated with pulmonary hypertension. Mantz and Craige,[6] writing in 1951, were the first to describe coexistent portal and pulmonary hypertension. Naeye[7] added six more patients to the literature in 1960. Since then, there has been a gradual increase in the number of reports suggesting a genuine relationship between liver disease and pulmonary hypertension.[8-17] Whether this association is causal or merely coincidental, however, remains unknown. Many authors believe the pulmonary hypertension occurring with liver disease to be embolic in origin. The common development of portasystemic collaterals, usually by esophageal or gastric varices but sometimes by direct portapulmonary shunts, has always figured prominently in the theory connecting portal and pulmonary hypertension. Obviously, portal vein thrombosis may be a source of thromboemboli by these pathways.

With this patient, the question of recurrent pyogenic cholangitis with secondary portal vein thrombosis might have come up in light of his fever and episodic hyperbilirubinemia. However, he did not manifest any of the stigmata usually associated with portal hypertension; there were no varices seen on the upper gastrointestinal series nor did the patient ever complain of abdominal pain or demonstrate right upper quadrant tenderness.

Some authors have not found thromboemboli in patients with liver disease and pulmonary hypertension but, rather, have described the so-called plexigenic pulmonary arteriopathy, which consists of concentric laminar intimal fibrosis, fibrinoid necrosis of the pulmonary arterioles, and plexiform lesions. This morphology is characteristic of vasoconstrictive pulmonary hypertension associated with congenital cardiovascular shunts or primary pulmonary hypertension; it is not characteristic of thromboembolic pulmonary hypertension. Some authors postulate that a humoral agent, such as an intestinal metabolite which cannot be metabolized by a diseased liver, induces vasoconstriction of pulmonary arteries to cause pulmonary hypertension.[18] Although no such intestinal metabolite has been identified, the principle of such a mechanism is sound. It is perhaps significant that when crotalaria, a toxic plant containing a pyrrolizidine alkaloid, is fed to animals, severe liver injury occurs and is followed by pulmonary hypertension.[19] Interestingly, the pulmonary morphology in these animals is characteristic of plexigenic arteriopathy. Some investigators speculate whether crotalaria and other related compounds might inactivate or block some metabolic pathway in the liver that normally prevents vasoconstriction of the pulmonary vessels. Thus, there does seem to be some evidence to suggest that pulmonary hypertension may at times be more than coincidentally associated with hepatic disease.

Finally, I would like to comment on what Harris and Heath refer to as unexplained pulmonary hypertension. This has long been regarded as a wastebasket diagnosis. It deserves mention because in this patient there is no evidence of cardiac or pulmonary disease to explain his elevated pulmonary artery pressure. In clinicopathologic terms, unexplained pulmonary hypertension can be separated into three distinct morphologic entities—plexigenic pulmonary arteriopathy (with or without liver disease), recurrent

pulmonary thromboembolism, and pulmonary veno-occlusive disease.[20] Clinical presentation of these three pathologic types may be quite similar, with the definitive diagnosis dependent on histologic examination of lung tissue. Pulmonary veno-occlusive disease, characterized by obstructive lesions of the pulmonary veins and venules, is very rare. It may present with signs of pulmonary venous congestion, but there are times when it looks exactly like today's case. Primary pulmonary hypertension is a disease of unknown cause which is characterized by exertional dyspnea, chest pain, dizziness and syncope, and a progressive course resulting in death within three to seven years. Pathologically, it is characterized by plexigenic arteriopathy. First, one sees pulmonary arterial vasoconstriction with medial hypertrophy, then one sees development of proliferative intimal lesions. Primary pulmonary hypertension occurs approximately four times as often in females as in males and is typically seen in young adults between the ages of 20 and 40.

Sudden death is not at all unusual in primary pulmonary hypertension, and it has been reported during or after stressful procedures, such as cardiac catheterization, bone marrow aspiration, a surgical operation, anesthesia, even administration of sedatives.[21] We can only speculate whether in this case proctoscopy was stressful enough to lead to death.

I believe that this patient had primary pulmonary hypertension of the type associated with liver disease; that is, he had plexigenic pulmonary arteriopathy. The major differential diagnosis is that he had recurrent thromboembolic pulmonary hypertension which may have been associated terminally with an atypical presentation of ascending cholangitis and portal vein thrombosis. I suspect he died of ventricular fibrillation, although I cannot be sure that he did not rupture a pulmonary artery.

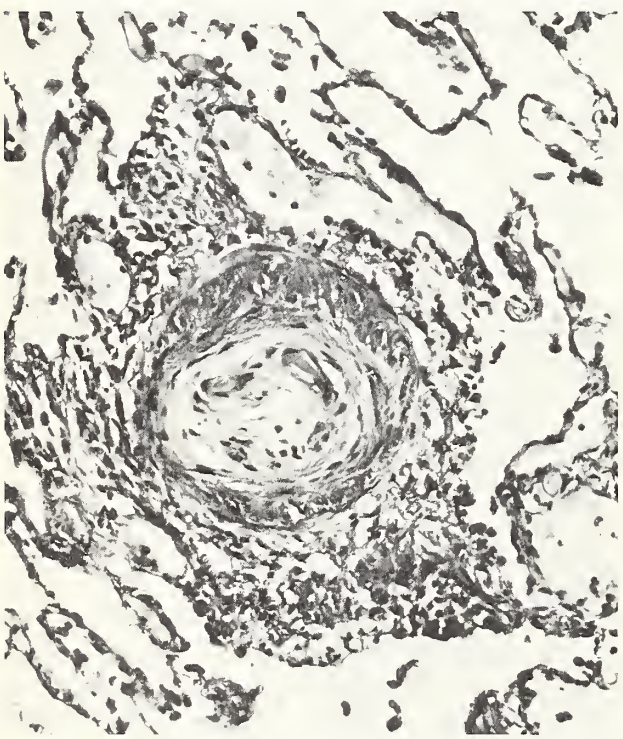


Fig. 5. Histologic section of lung showing plexigenic lesion in small pulmonary artery (Verhoff-Van Gieson, × 300).

Pathology Discussion

Dr. Benjamin Sturgill: The heart weighed 510 gm, due principally to hypertrophy of the right ventricle. Predominance of the right ventricle directed our attention to the lungs. However, gross examination of the lungs disclosed no intrinsic lung disease or pulmonary emboli. There was prominence of the pulmonary vasculature and some atherosclerosis of the major pulmonary arteries.

Microscopic examination of the lungs, however, revealed a characteristic sclerotic process in small pulmonary arteries (Fig. 5). Almost every vessel of small caliber in this lung is affected by this same sclerotic process which, because of its net-like character, has been termed plexigenic pulmonary arteriopathy. Although not specific, this lesion is characteristic of primary pulmonary hypertension. It is also seen in the lungs of people dying of congenital heart disease with shunts and pulmonary hypertension secondary

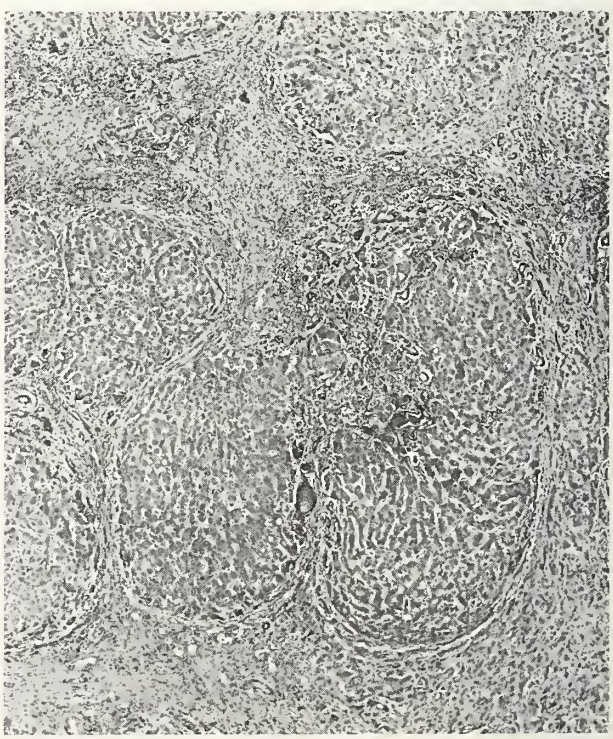


Fig. 6. Histologic section of liver showing micronodular cirrhosis (H & E, × 60).

to that, in pulmonary hypertension developing in response to the amphetamine-like anorexogenic drugs, and in pulmonary hypertension in association with cirrhosis—and it is this latter situation that prevailed in today's patient.

The liver was about normal size (Fig. 6), but its architecture was distorted by a very fine nodularity. The spleen, too, was chronically congested. It weighed almost 500 gm, indicative of portal hypertension in this case, even though the patient had suffered none of the serious consequences of that problem. The portal vein was entirely patent.

This case raises a question about whether the association of pulmonary hypertension with hepatic disease is simply fortuitous or indicative of a common etiology. I am not sure that the answer is available, but there is some evidence to suggest that they may very well be causally related. This evidence relates to Dr. Rochester's mention of the disease caused by crotalaria. Kay and Heath[22] write that crotalism was first described by Starker in Missouri in the late 19th century. Horses in the Missouri valley became ill when they ingested crotalaria. In experimental animals, alkaloid extracts from the crotalaria plant cause liver injury and pulmonary vascular lesions similar to those seen in primary pulmonary hypertension. Whether there is a common etiology or whether the damaged liver somehow simply allows metabolic products to accumulate and damage the lungs is unknown. It is interesting, though, that the liver disease always precedes the pulmonary disease in these experimental animals.

Examination of the gall bladder showed dilatation, edema, and mucosal ulcers typical of acute cholecystitis. This patient's terminal fever and rise in bilirubin probably were related to acute biliary tract inflammation.

Other findings included a subacute orchitis of the left testis, a subacute prostatitis, and multifocal gastrointestinal hemorrhage.

In summary, this patient did have pulmonary hypertension of the unexplained or plexigenic variety. It is associated with cirrhosis of the liver. I can only compliment Dr. Rochester on the clarity and accuracy of his discussion and assessment.

DR. DAVID STONE: Are you willing to support an association of cirrhosis, an exceedingly common disease, and primary pulmonary hypertension, which in any form is very rare?

DR. STURGILL: I don't know that anyone has yet looked critically and statistically at the association of these two diseases. I am persuaded by the animal experiments that the association is more than just coincidental.

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Brief Summary

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WARNINGS: If tolerance develops, the recommended dose should not be exceeded in an attempt to increase the effect; rather, the drug should be discontinued. Tenuate may impair the ability of the patient to engage in potentially hazardous activities such as operating machinery or driving a motor vehicle; the patient should therefore be cautioned accordingly. *Drug Dependence:* Tenuate has some chemical and pharmacologic similarities to the amphetamines and other related stimulant drugs that have been extensively abused. There have been reports of subjects becoming psychologically dependent on diethylpropion. The possibility of abuse should be kept in mind when evaluating the desirability of including a drug as part of a weight reduction program. Abuse of amphetamines and related drugs may be associated with varying degrees of psychologic dependence and social dysfunction which, in the case of certain drugs, may be severe. There are reports of patients who have increased the dosage to many times that recommended. Abrupt cessation following prolonged high dosage administration results in extreme fatigue and mental depression; changes are also noted on the sleep EEG. Manifestations of chronic intoxication with anorectic drugs include severe dermatoses, marked insomnia, irritability, hyperactivity, and personality changes. The most severe manifestation of chronic intoxications is psychosis, often clinically indistinguishable from schizophrenia. *Use in Pregnancy:* Although rat and human reproductive studies have not indicated adverse effects, the use of Tenuate by women who are pregnant or may become pregnant requires that the potential benefits be weighed against the potential risks. *Use in Children:* Tenuate is not recommended for use in children under 12 years of age.

PRECAUTIONS: Caution is to be exercised in prescribing Tenuate for patients with hypertension or with symptomatic cardiovascular disease, including arrhythmias. Tenuate should not be administered to patients with severe hypertension. Insulin requirements in diabetes mellitus may be altered in association with the use of Tenuate and the concomitant dietary regimen. Tenuate may decrease the hypotensive effect of guanethidine. The least amount feasible should be prescribed or dispensed at one time in order to minimize the possibility of overdosage. Reports suggest that Tenuate may increase convulsions in some epileptics. Therefore, epileptics receiving Tenuate should be carefully monitored. Titration of dose or discontinuance of Tenuate may be necessary.

ADVERSE REACTIONS: *Cardiovascular:* Palpitation, tachycardia, elevation of blood pressure, precordial pain, arrhythmia. One published report described T-wave changes in the ECG of a healthy young male after ingestion of diethylpropion hydrochloride. *Central Nervous System:* Overstimulation, nervousness, restlessness, dizziness, jitteriness, insomnia, anxiety, euphoria, depression, dysphoria, tremor, dyskinesia, mydriasis, drowsiness, malaise, headache; rarely psychotic episodes at recommended doses. In a few epileptics an increase in convulsive episodes has been reported. *Gastrointestinal:* Dryness of the mouth, unpleasant taste, nausea, vomiting, abdominal discomfort, diarrhea, constipation, other gastrointestinal disturbances. *Allergic:* Urticaria, rash, ecchymosis, erythema. *Endocrine:* impotence, changes in libido, gynecomastia, menstrual upset. *Hematopoietic System:* Bone marrow depression, agranulocytosis, leukopenia. *Miscellaneous:* A variety of miscellaneous adverse reactions has been reported by physicians. These include complaints such as dyspnea, hair loss, muscle pain, dysuria, increased sweating, and polyuria.

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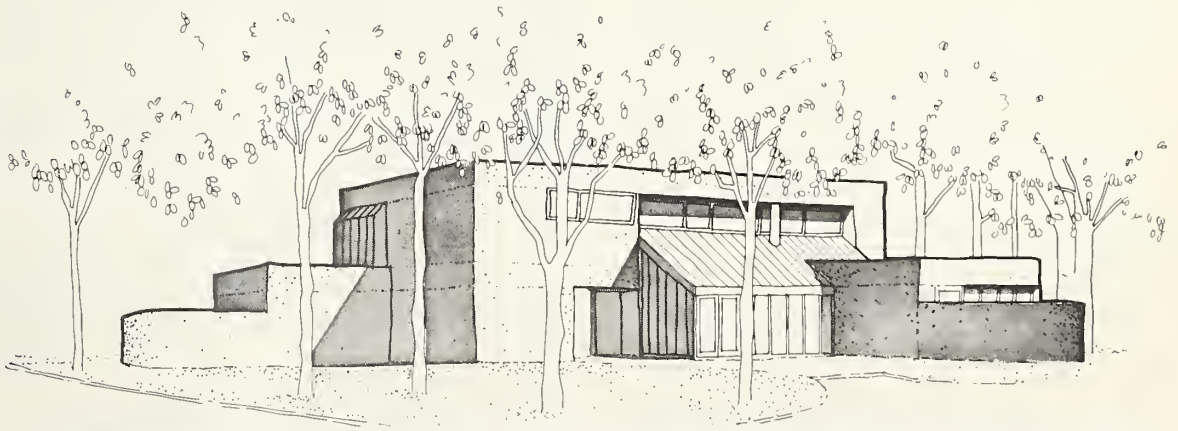
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Contrast Venography: A "Golden Oldie"

P. M. Fitzer, MD, *Newport News, Virginia*

THE literature is replete with new techniques for the detection of deep venous thrombosis (DVT) of the legs. The "non-invasive" methods of isotope venography, ^{125}I-fibrinogen counting, impedance plethysmography and Doppler ultrasound have all been advocated, alone or in combination, for deep venous thrombosis detection[1-6] (Table 1). There is no doubt that these techniques are effective, but even in combination, none are as accurate as the ultimate standard of comparison, "invasive" contrast venography.[7] The ideal technique for deep venous thrombosis detection should be widely available, suitable for both ambulatory and bed-ridden patients, inexpensive, and should give immediate, accurate results, with little morbidity. Such a technique has been available for many years.

A perusal of Table 1 makes several points clear. Many co-existing conditions limit the use of radionuclide venography, ^{125}I fibrinogen scanning, and impedance plethysmography—and these are often the very conditions which must be differentiated from deep venous thrombosis. Doppler ultrasound cannot be used for detection of calf vein thrombosis, surely the most common site of deep venous thrombosis. ^{125}I fibrinogen counting may take up to four days, an inconvenience at best. Radionuclide venography and ^{125}I fibrinogen counting are hardly "non-invasive":

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Submitted 5-18-79.

Table 1. Non-Invasive Techniques for Detection of Deep Venous Thrombosis of the Legs.

	Time	Approx. Cost	Morbidity	Accuracy	May Cause Spurious Results
Radionuclide Venography[1,9]	30 min.	$130	Related to injection site (infection); pyrogens	85–90%	Chronic venous stasis (varicose veins, incompetent valves, etc.)
^{125}I Fibrinogen Counting[2-4]	up to 4 days	$175	Slight possibility of hepatitis from fibrinogen; must block thyroid with Lugol's or perchlorate to prevent uptake of ^{125}I	50%	Active arthritis, massive edema, cellulitis, superficial thrombophlebitis
Impedance Plethysmography[4,5,9]	30 min.	$150	None	90%	Failure of relaxation of leg muscles, compression of pelvic veins, peripheral arterial disease, congestive heart failure
Doppler Ultrasound[6]	30 min.	$ 75	None	Perhaps 90% but depends very heavily on experience of operator	Insensitive to small veins, cannot be used for calf vein thrombosis

foreign substances are injected intravenously, and hepatitis, pyrogen fever or other morbidity might result. Even when all factors which might produce spurious results are eliminated, the accuracy is never more than 50-90%, as measured against the results of contrast venography in the same group of patients. Further, many authors would hesitate to commit a patient to three months of anticoagulant therapy without confirming positive test results with a contrast venogram.[4,6] Since contrast venography is the ultimate yardstick, why is there some hesitation in its application? The most frequently quoted drawbacks to contrast venography are here discussed.

- In recent large series, the incidence of death from intravenous administration of contrast is about 1 in 40,000-75,000 examinations. The overall incidence of reaction is about 5.65%, and the great majority of these are minor (nausea, flushing, vomiting, urticaria). It is postulated that many reactions are due to fright, and might be prevented.[10-12]
- Burning and cramping in the calf and thigh are frequently reported by patients and may be related to the known effects of contrast media on the venous endothelium. A symptom complex similar to deep venous thrombosis may occur following venography in up to 24% of patients studied with large volumes of contrast (125 cc per leg average), given over a 7-12 minute injection. The symptoms subside spontaneously by 5 days. At least some of these patients actually have documented DVT following a normal venogram, but the etiology of the symptoms in most patients is unclear. The incidence of this reaction may be reduced to 7.5% by using more dilute contrast. Rarely, extravasation of contrast may cause skin necrosis. Superficial thrombophlebitis at the injection site is uncommon.[13-15]
- Many schemes for leg venography stress the importance of filling and filming, often in several views, every vein in the leg and foot. Large volumes of contrast (125 cc or more) are used; a long injection time (up to 12 minutes) is required for the necessary fluoroscopy, spot films, and various overhead films to be obtained. Although the gonads are usually out of the direct x-ray beam, the gonadal radiation dose for such a complete procedure is not minimal. The morbidity of a complete study filling and filming virtually "all" veins must be considered. It would seem prudent to fill "most" veins if morbidity could be markedly reduced.[13,16-19]
- Several points must be made. The incidence of life threatening reactions to intravenous contrast media is indeed low. It is puzzling how some physicians routinely order the upper extremity injection of contrast for intravenous urography, yet object to the lower extremity injection of the same volume of the same agent for venography as "invasive". Since the volume of contrast used and the time the contrast remains in the leg seem to be critical factors in post-venogram morbidity, it seems reasonable to use smaller volumes and shorter injections. Immediate reaction to the intravenous contrast agent can be safely treated if dealt with promptly. Any physician who administers intravenous contrast agents must be thoroughly familiar with the treatment of immediate reactions; a fully equipped emergency cart must be available.[20] The radiation dose to the patient may be held to a minimum if two or more views of every vein in the foot, leg and pelvis are not required.

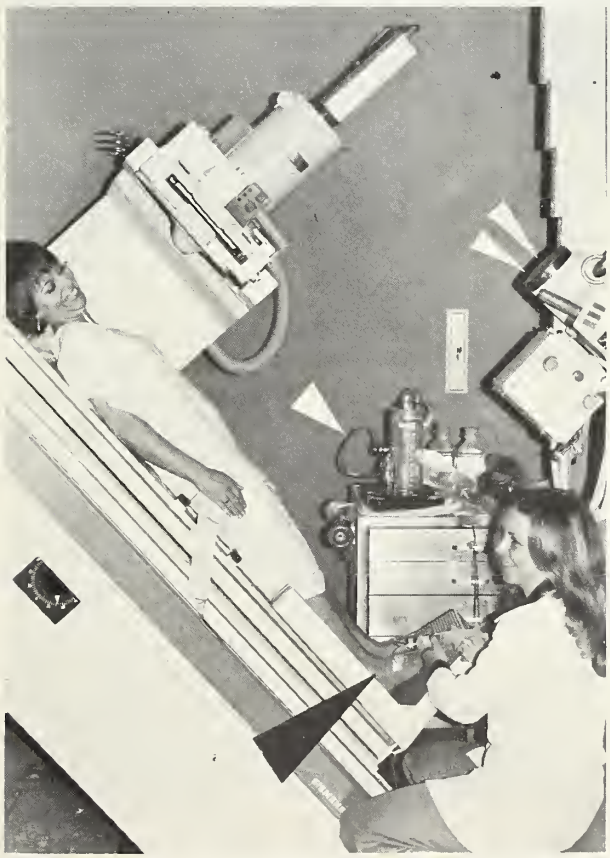


Fig. 1. Radiographic table tilted to 45°; contrast injected in pedal vein (large arrow); x-ray tube (double arrows) positioned for film of patient's calf; emergency cart available (small arrow). *Posed by professional models.*

Modified Leg Venography Technique

A technique of leg venography currently used at the Riverside Hospital, Newport News, Virginia, is

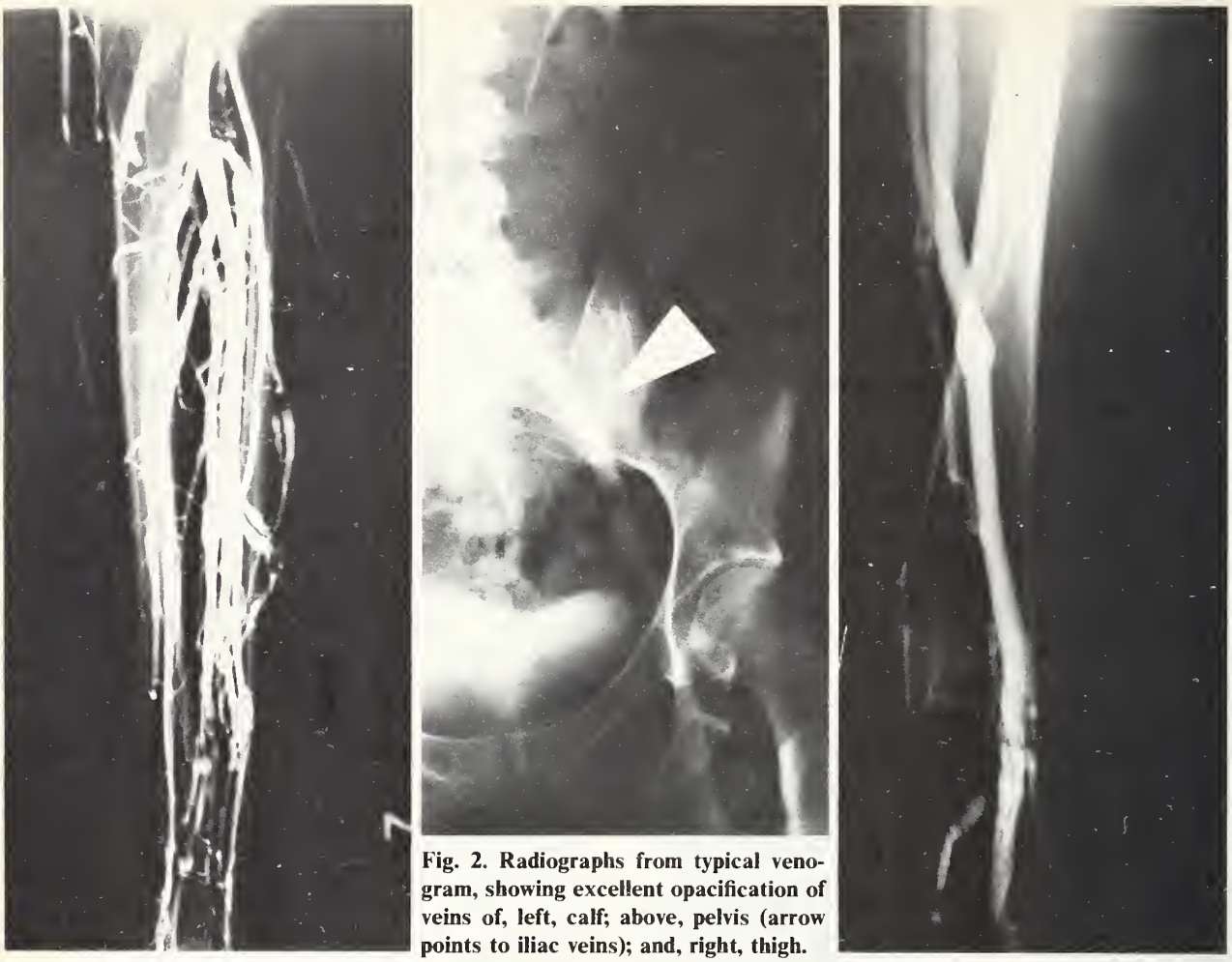


Fig. 2. Radiographs from typical venogram, showing excellent opacification of veins of, left, calf; above, pelvis (arrow points to iliac veins); and, right, thigh.

quick and effective. "Most" veins are filled, and post-venogram morbidity is rare. The technique is straightforward: a rapid injection of a small volume of contrast is made, with only three films. The equipment is available in any department of radiology. Gadgets, gimmicks, and special injection techniques are not necessary.[21-23]

The patient is placed on a radiographic table (Fig. 1). A 19- or 21-gauge scalp vein needle is placed in a pedal vein. With the table tilted 45°, 50 cc renografin-60 is injected over 30-60 seconds. No tourniquet is used during the injection. The patient is asked to note when the "warm feeling" of the contrast reaches the knee. At this point, a film of the calf is made. The cassette is changed, and a film of the thigh is made. The cassette is changed, and the table is rapidly tipped to the horizontal; this floods the iliac veins with contrast, and the third and final film is made (Fig. 2).

The advantages of this technique are obvious: a small volume of contrast is used, and it remains in the leg veins for only 1-2 minutes. Using this technique, morbidity has been limited to mild nausea or occasional urticaria; the severe deep venous thrombosis-like symptoms described earlier have not been noted. Only three films are made, and gonadal radiation is kept to an absolute minimum; lead gonadal shields are routinely used. There is no exposure of the injecting radiologist, since the injection is invariably completed before the patient feels the contrast reach the knee. The radiologist has by then moved behind the protective barrier. From the technologist's standpoint, the film cassettes may be changed at a relatively leisurely rate—no mad scramble is necessary. The technique is reproducible, and few repeats are necessary. The total time necessary is less than 20 minutes in most cases. The equipment involved in available everywhere. The price is competitive, about $110.

Conclusion

Conventional contrast venography is the most accurate technique for detection of deep venous thrombosis. If properly performed, morbidity is indeed

minimal. Diagnostic information is produced rapidly, and only basic radiographic equipment is necessary.

Acknowledgments

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COMMENT

The Editors found distinct merit in the comment on this article of one of its reviewers, whose views on contrast venography originate in an academic setting, whereas Dr. Fitzer speaks from the context of private practice, the one experience amplifying the other.

Contrast venography is indeed the current gold standard to which the various "non-invasive" modalities are compared. Its reliability is widely accepted, and most clinicians would certainly be loath to commit a patient to long-term anticoagulation without venographic confirmation.

I am concerned, however, that Dr. Fitzer's modifications of the most accepted technique of leg venography (Rabinov and Paulin, 1972) may result in an unacceptable number of false negatives—the study inherently has few false positives when strict diagnostic criteria are applied. The goals of decreasing radiation dose to patient and staff and of minimizing contrast-induced venous inflammation are of course laudable, but I would take issue with four points.

1. Most authors regard 50 ml of contrast medium as an insufficient volume to evaluate the rather capacious veins of the leg, the aggregate volume of which is roughly 300 ml. At the University of Virginia, we now employ up to 150 ml of diluted contrast agent.

2. Three films are inadequate to reliably demonstrate the veins of the leg. Most radiologists would insist on seeing a filling defect in a vein on at least two exposures before accepting it as a thrombus, to avoid mistaking flow phenomena or overlapping veins for clots. We often see equivocal findings on one film clarified by a supplemental view in another projection.

3. It is a general consensus that use of dilute contrast media significantly reduces the incidence of post-venographic venous inflammation (Bettmann and Paulin, 1977). Dr. Fitzer advocates a small volume of undiluted contrast medium. We prefer to use a larger volume of this same agent diluted to three-quarter strength.

4. Figure 1 illustrates contrast injection while the patient bears weight on the examined extremity. This tenses the calf muscles and causes incomplete filling of muscular veins, with the result that thrombi in these veins may be thus overlooked, or that filling defects may be artifactually produced in normal veins. The study should be performed with the involved leg relaxed and non-weight-bearing.

In summary, I feel the implications of either misdiagnosing or overlooking venous thrombosis are potentially so profound for the patient that the most reliable available diagnostic techniques should be employed. When leg venography is requested, radiologists should use methods that yield high accuracy combined with acceptably low morbidity. I believe that Dr. Fitzer's modifications may well increase false negative results, and should not be accepted uncritically without statistical comparison to accepted high-volume, multiple-film techniques.

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Dr. Fitzer replies:

Dr. Moore's comments on our modification of DeWeese and Rogoff's[24] classic technique of venography are appreciated. I would reply point by point:

1. Not all practitioners subscribe to the relatively recent high contrast dose/high radiation dose technique of Rabinov and Paulin.[16] More may not be better in every case. Other, older techniques have certainly shown acceptable diagnostic accuracy[7] and are still widely and satisfactorily employed. I am aware of no published study comparing the diagnostic accuracy of these several techniques in similar groups of patients. All statements regarding the relative diagnostic accuracy of venographic techniques must therefore be somewhat anecdotal.

2. If equivocal findings are present, a second injection of contrast and one or two more films normally will settle the issue. If the questionable area is in the calf, less contrast may be necessary for the second injection. This is still less contrast and far less radiation than with the technique of Rabinov and Paulin.

3. The total amount of contrast, regardless of its initial dilution, is also an important factor, especially if it is to remain in the leg up to 12 minutes.[16] Fifty cc of a 60% concentration of contrast is still less than 150 cc of a 43% concentration.

4. I agree completely. I apologize for this omission in Figure 1. I will speak to the model agency about this.

Since so many venograms in our hospital are done as a screening procedure in patients with obscure leg pain, mild swelling of the foot, groin pain, etc., it would seem that our modification of a long established technique would be valid in the majority of instances. No procedure consistently opacifies every vein.[16] Few patients with clear cut clinical findings of thrombosis or thromboembolic phenomena would be denied anticoagulant therapy even with a "normal" venogram.

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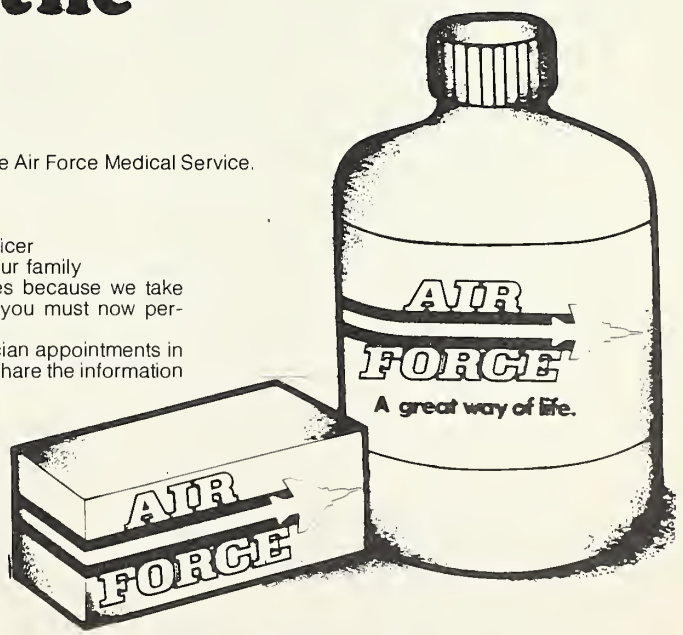
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H. Scott Roman, MHA, *Chicago, Illinois*

Underway in Virginia is a cost-conscious program designed by Blue Shield to discourage the use of inhospital procedures deemed by national specialty societies to be relatively ineffective or outmoded. The author describes the program and its early influence.

THE medical care profession is under severe criticism from many segments of American society. The profession is being indicted for its failure to control costs and eliminate unnecessary utilization, while assuring the quality and accessibility of care. Concurrently, public pressure is being exerted to expand services and offer the latest advances in medical technology.

The result of these multiple and oftentimes conflicting demands is that the profession must operate and compete in a highly volatile environment. Perhaps the one aspect of this crisis which has received the most attention is the issue of costs. The formulation of remedies to control costs has been difficult and frustrating because it is a multi-dimensional problem to which every institution, directly or indirectly involved in either medical care delivery or financing, has contributed. No single component within the profession can resolve the problem. It requires a collective effort and a number of approaches.

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The material in this article was delivered by the author before the Rural Health Advisory Committee on August 21, 1979, in Richmond. The Committee is composed of members of The Medical Society of Virginia and the Virginia Farm Bureau Federation.

The Medical Necessity Program is an example of the Blue Cross and Blue Shield organizations' contribution to that collective action. The Program began in 1976 when the Blue Shield Association approached a number of prominent and national medical specialty associations about the possibility of reviewing the existing inventory of diagnostic and surgical procedures to see whether all of those procedures were really necessary, and whether the patient actually benefited from them.

The inventory has grown dramatically over the years, of course. As a result of new technology and the contributions of medical research, physicians today often have a number of alternatives available to diagnose or treat a particular condition. All of these options, however, cost money! When the doctor utilizes an option that is ineffective, or less effective than another alternative, the result can be a significant increase in the cost of care.

The goal of the original Medical Necessity Program, and of the specialty organizations which agreed to cooperate in it, was to identify procedures which fell into one or more of four categories:

- New procedures whose value has yet to be proven;
- Old procedures which have been superceded by newer and more effective procedures;

• Procedures which tend to be redundant when done in combination with other procedures;

• Diagnostic procedures which are unlikely to provide a physician with new information when they are repeated again and again.

The review of procedures was performed by such national medical societies as the American College of Physicians, the American College of Surgeons, the American College of Radiology and others. Following a year of examination, these organizations identified for the Blue Shield Association a list of more than 40 procedures they considered generally no longer useful.

The Program was announced in May, 1978. Blue Shield Plans were asked to conduct educational programs within their service areas, after which they would no longer pay for those procedures identified as no longer useful, unless a physician provided additional information describing the special conditions necessitating the use of the procedure.

It should be emphasized that Blue Shield traditionally has held to a strict division of labor in its relationship with the medical profession, depending on the participation and cooperation of physicians in order to serve effectively its subscribers. The 72 million Americans covered under private Blue Shield programs have been better served because Blue Shield has sustained physician support for its programs and has zealously avoided interfering in the physician-patient relationship.

There are however, underlying responsibilities associated with the role of the physician and the third-party payer. In the words of Russell Roth, former AMA president, we share the need to be "guardians of the patient's pocketbook." We must assure that the care received by patients is not only the best available, but also the most *cost effective.*

The Medical Necessity Program does not represent a deviation from these basic principles. It does not represent an attempt to tell subscribers what type of care they should receive. It does not represent an attempt to force physicians to choose an inferior course of treatment for their patients simply because it costs less. It does, however, represent a new determination by Blue Shield to help manage the overall cost of medical care by monitoring and discouraging the use of procedures which national medical specialty organizations have determined to be outmoded or not as effective as other available procedures.

At the local level, almost 99% of Plans, including the Virginia Plans, have implemented the first phase of the Medical Necessity Program, and most have involved their Blue Shield boards and local medical societies in its implementation.

Then, in February 1979, the Blue Cross and Blue Shield Associations announced the expansion of the Medical Necessity Program. An additional 26 diagnostic laboratory procedures were added to the original medical necessity list on the recommendation of the American College of Physicians, with the American College of Pathologists concurring. At the same time, the Associations announced that Plans should pay for routine hospital admission batteries only when the tests are specifically ordered by a patient's admitting or attending physician. The recent proliferation of routine hospital admission tests was the principal factor responsible for this decision, and its evolution merits brief discussion. About a decade ago, laboratories were confronted with an important decision, that is, whether to continue to increase the number of medical technologists in clinical chemistry in order to meet expanding demand, or to purchase newly available, automated, multi-channel, continuous-flow analyzers. In the interest of economy, most laboratories opted for the latter alternative.

It soon became evident that many physicians were ordering, as single tests, three or more of the tests included in the SMA panel for almost every patient in the hospital. Laboratories not only began to utilize analyzers for a minimum number of requested procedures, but they also began to perform routinely and report the entire panel of tests, for fear of the implications of not reporting abnormal results. Since most inpatients were scheduled for basic hematology studies and a chemistry survey, many hospitals decided to perform multi-test services on all patients as a part of the admission process. Later, many hospitals also added x-rays and EKGs to the list of required admission screening procedures. The era of defensive medicine was indeed underway!

Today, the Blue Cross and Blue Shield organizations question whether a battery of six, 12 or 15 tests are routinely necessary and cost effective. Dr. Evan Stein, director of clinical chemistry at the University of Cincinnati Medical Center, provided keen insight into this problem in the summer 1979 issue of *Perspective.* According to Dr. Stein, one of the major reasons for the substantial increase in health care expenditures has been the "uncritical utilization of laboratory and specialty services." For example, "The SMA 12 or 6 contains an arbitrary choice of biochemical parameters unrelated to any particular disease, often chosen by those not involved in patient care, and varying from hospital to hospital."

Based upon the wide variance among the nation's hospitals in the performance of routine admission batteries, there is little evidence to suggest that routine testing of all inpatients, regardless of age, sex,

and diagnosis, is cost effective or represents quality medical care. With this premise in mind, the Blue Cross and Blue Shield Associations asked the American College of Physicians to study the problem of routine testing. The College responded by stating that the "injudicious use of diagnostic tests contributes greatly to the cost of medical care," and added that "no diagnostic tests . . . should be required as routine procedures for patients admitted to the hospital." Good medical practice, according to the College, "dictates that diagnostic tests should be determined by the nature of the patient's problem and should be ordered individually by the patient's physician. Thoughtful attention should be given to the parsimonious use of the diagnostic laboratory. . . . The fact must be recognized that diagnostic testing should complement, but not replace, a careful history-taking and physician examination. The burden of proof for the medical indication for a diagnostic laboratory test rests on the physician who orders it. He must consider possible diagnostic benefits and alternatives, as well as less costly but equally effective methods of deriving the same information. The practice of ordering admission batteries on all patients, irrespective of need, concerns both the College as an evaluator of quality and Blue Cross and Blue Shield Plans as fiduciaries for the subscriber."

In April of 1979, the American College of Surgeons recommended that the Medical Necessity Program be extended to include surgical admissions. The College stated, "The discouragement of the routine use of batteries of tests without specific orders on admission should apply to surgical as well as medical cases. Consistency would appear to demand no less." This extension of the Medical Necessity Program will affect about 45% of the patients admitted annually to hospitals who are surgical patients (16 million) and on whom about $1.1 billion is now spent on admission batteries (an average of $69 each).

The American Hospital Association has also endorsed this Program and is testing the cost effectiveness of limited routine batteries.

In May 1979, the Board of Commissioners of the Joint Commission on Hospital Accreditation adopted the following statement: "It has come to the attention of the Board that there is a widespread notion that the Joint Commission on Hospital Accreditation Program standards dictate routine laboratory tests and x-ray examinations be a part of hospital admission procedures . . . Hospital Accreditation Program standards do not mandate routine clinical tests or x-ray examination for hospital admission. Only under the most extraordinary circumstances clearly justified by a demonstrable benefit to patient health and safety, statute, or risk management considerations would the JCAH consider any blanket testing requirement to be appropriate."

It must be emphasized that the Blue Cross and Blue Shield Associations are not suggesting that Plans arbitrarily deny benefits for batteries of tests performed on hospital admission. The Program is not designed to save money at the expense of the subscriber. The Associations believe, however, that they have a responsibility to encourage the use of those medical care resources that not only contribute to the quality of care but are cost effective as well. Walter McNerney, president of the Blue Cross and Blue Shield Associations, has addressed these responsibilities in this way: "The charge that third-party payers are simply uncritical conduits of monies from the public to providers has merit in some instances. It seems probable that large sums are being paid routinely and uncritically for tests and procedures which are outdated, redundant, unproven, repetitive, or done purely to protect the provider in case of a subsequent malpractice action. Not enough has been done or was being done to define medically necessary services, to stimulate broad-based authoritative medical organizations to make some hard decisions that *they* are best qualified to make . . . ."

For too long, the medical care profession has labored under the misconception that the best medical and the most expensive medical care are one and the same. More recently, the Blue Cross and Blue Shield organizations have observed that there is a common denominator in the delivery of quality and cost effective medical care. One important means to achieve this cost/benefit balance is for the individual physician to analyze thoroughly and critically the needs of each patient. The Associations hope that Plans and hospital medical and administrative staffs will collaborate with one another to eliminate or modify standing orders and/or laws mandating routine performance of diagnostic tests in order to permit individual physicians to exercise discretionary judgment in the diagnosis and treatment of their patients.

The Medical Necessity Program has produced significant ramifications in Virginia. To date, Blue Shield of Virginia and Blue Shield of Southwestern Virginia have both endorsed the portion of the Medical Necessity Program related to routine hospital admission batteries. Blue Cross of Southwestern Virginia has also endorsed it. Blue Cross of Virginia has decided to monitor and study the issue for six months while giving hospitals an opportunity to reduce routine tests.

Meanwhile, the Virginia Hospital Association has passed a resolution to encourage individual hospitals

to review their admission procedures. This resolution prompted both the Virginia and Southwestern Virginia Plans to survey 43 Plan hospitals. Fifteen of these hospitals reported that they did not require a routine battery of clinical tests upon admission; 28 hospitals required from two to nine tests each. After formally endorsing the Program, the Southwestern Virginia Plan surveyed 19 Plan hospitals. Eighteen of these hospitals had eliminated or planned to eliminate their requirements for routine admission testing. The other hospital is in the process of reevaluating its admission practices.

There have been some misunderstandings as a result of the announcement of the Medical Necessity Program, especially concerning routine admission batteries. Misunderstanding, however, was inevitable, since the Program is complicated and represents an expanded role for Blue Cross and Blue Shield.

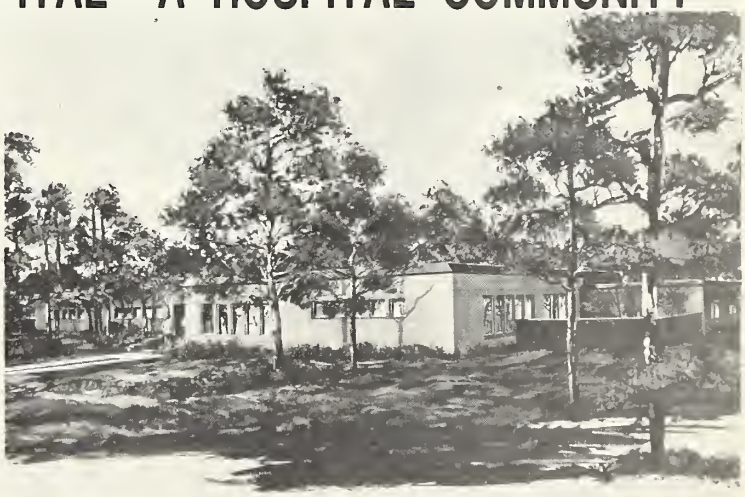
The Program does not represent a reduction in coverage. Almost all Blue Cross and Blue Shield contracts contain a medical necessity clause that obligates Plans to pay only for services that are considered medically necessary.

The Program does not represent an attempt by Blue Cross and Blue Shield to direct unilaterally the scope of patient care. It is based on the advice of established medical and hospital authority.

Finally, the Program is not intended to jeopardize the financial integrity of subscribers, physicians, or hospitals. It is intended to raise the level of cost consciousness among all of us. Any effort that can help to control costs without lowering the quality of care will benefit everyone.

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G. Reza H. Farsad, MD, *Salem, Virginia*

Case Report

A 44-year-old white female was admitted to the hospital for vaginal bleeding which started after irregular menstrual periods and continued for six months prior to admission. She was noted to have mental deficiency since childhood of unknown etiology. Abnormality of her external genitalia was noted a year previously when an endocervical polyp was removed. Meanwhile she was treated for her thyroid dysfunction, losing 10 pounds after administration of thyroid substance. Her mother's pregnancy for this child was uncomplicated, with no history of trauma during the delivery.

On physical examination mild enlargement of thyroid was noted by inspection and palpation. Two uterine cervices, two uterine fundi, and a fibroid, small in size and attached to the uterine body, were found in one of the uteri by bimanual examination. EKG, blood chemistries, and urinalysis were within normal limits.

The patient underwent elective hysterectomy for bleeding leiomyoma uteri. On surgical exploration malrotation of the small and large bowels was found. The small bowel had a very loose attachment to the mesentery and the mesentery was very narrowed in base. The large bowel was incompletely rotated and the cecum was completely free and floating in the peritoneal cavity. The uterus was duplex, connecting to two tubes and ovaries. A small leiomyoma was located in the right-sided portion of the uterus, and total hysterectomy with bilateral salpingo-oophorectomy was performed. Also, the kidneys, by palpation, were relatively small and lobulated, grossly resembling the characteristic picture of embryonic kidneys.

Histopathology of removed specimen showed chronic cervicitis, leiomyoma uteri, periovarian adhesions, and obviously uterus septus duplex. The patient went on to uneventful recovery.

Postoperatively more diagnostic studies were performed. Her nuclear sex chromatin study, Barr bodies, were consistent with that of a normal female. The total volume of urine in 24 hours was approximately 2550 ml. The blood creatinine was 0.7 and urine creatinine 25.0. Creatinine clearance was 63.2 ml per minute. Barium enema study showed that there was incomplete rotation of the colon with most of the colon being on the left side with the cecum in the pelvis. Upper gastrointestinal study showed lateral displacement of small bowel in relation to the previously described congenital malposition of the cecum and ascending colon. Lobulation in kidneys and small cyst formation were noted in intravenous pyelogram.

From the Veterans Administration Medical Center, Salem VA 24153.

Submitted 4-3-79.

Discussion

Congenital absence of the Mullerian duct system originates during very early embryonic development. Complete absence of the ductal system manifests in the absence of the uterus, vagina and oviducts. Partial failure of formation of cephalad or caudad parts of the Mullerian duct result in congenital absence of the genital organs. Abnormalities of the urinary tract, the skeletal system, and genital systems have been reported in the past. The medical literature was reviewed extensively, but no evidence was found of a report indicating the existence in one patient of mental deficiency, malrotation of the intestinal tract, embryonic kidneys, and genital abnormalities.

Muechler[1] studied 100 cases of congenital absence of the vagina; urinary tract anomalies were present in 50% of those patients studied.

Fitch and Lachance[2] studied the pathogenesis of embryological, teratological and genetic associations between limbs and kidney development. Stimulus for their study was the birth of an infant with lobster-claw deformity of the hands and feet, renal hypoplasia, and Potter facies, which is characterized by hypertelorism, epicanthic folds, a flattening and slight broadening of the nose, changes in the chin, and large, low-set, floppy ears. This picture is not specific for renal agenesis but has been found also in infantile polycystic kidney abnormalities, bilateral renal dysplasia and urethral artresia or obstruction.[3]

Korn and Borns[4] studied the association of bilateral and unilateral renal aplasia in the same family. According to their study, bilateral renal aplasia occurs in about 0.3% of live and stillborn infants and is 2–3 times more common in males. Unilateral renal aplasia is found in about 0.1% of autopsies. In their study, renal aplasia usually was found to be accompanied by anom-

alies of the genital system in the same side. They pointed out that development of the Mullerian duct apparently depends on the development of the mesonephric duct for its downward advancement; defective development in either may produce genital abnormalities in either sex.

Moore and his co-workers[5] studied genitourinary abnormalities associated with Klippel-Feil syndrome. Of 39 patients with Klippel-Feil syndrome, 25 had significant genitourinary tract anomalies demonstrated by intravenous urography and by physical examination. They found that unilateral renal agenesis is the most common type of abnormality in Klippel-Feil syndrome and recommended routine intravenous pyelogram for patients with this syndrome.

Halmi and Rigas[6] studied urogenital malformations associated with psychological development and disturbances. Five cases of urogenital abnormalities, including one of sex chromatin negative, Turner's syndrome, were found in a series of 59 cases treated for anorexia nervosa, this frequency much higher than expected on the basis of coincidence. They recommended that examination for malformation of the urogenital organs and the karyotype study is advisable in all patients with anorexia nervosa.

Seigel[7] studied the relationship between systemic diseases and congenital malformations and observed the incidence of major malformation following maternal chickenpox, mumps, measles, and viral hepatitis. Major congenital defects occurred in each viral group, but the malformations were equal in frequency and often similar in type to those observed among comparable control for the respective viral groups. He concluded that there was no apparent difference in the incidence of congenital defects among virus affected and control subjects, with total rates 2.2% and 2.3% respectively.

Vitko and his group[8] studied the association of bony malformation with genitourinary tract abnormalities. In 85 children with congenital scoliosis and congenital kyphosis, they found a greatly increased frequency of genitourinary tract anomalies. They concluded that genitourinary tract and vertebral column are mesodermal in origin and develop at the same period of embryonic life. An insult to the embryo during this period could result in congenital scoliosis and genitourinary tract anomalies.

Another study by Mecklenburg and Krueger[9] showed existence of extensive genitourinary tract anomalies with Klippel-Feil syndrome. They presented a 15-year-old girl with this syndrome who had an imperforated hymen and atretic lower vagina, as well as absence of the uterus and all but small remnant of the fallopian tubes; no left ovary was found by direct inspection and an intravenous pyelogram described non-visualization of the left kidney.

Combined congenital malformation of the urinary and genital tracts has been well known to physicians for a long time. It would be worthwhile to study any patient with congenital genitourinary malformation for the co-existing malformation of other systems.

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Product Information as of September, 1977

U.S. Patent 2,985,558

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8-3305 (Y371A)

Serum Total Acid Phosphatase: An Aid in Diagnosing Jaundice

Michael J. Moore, MD, and Anthony V. Torre, MD,
Salem, Virginia

As medical science becomes more sophisticated, ancillary aides become correspondingly complex, expensive, and time consuming. Frustrating diagnostic problems concerning the etiology of jaundice of recent duration remain in spite of these advances, and it was by chance that an old standby—serum total acid phosphatase—was rediscovered in a context totally apart from the niche to which it has been consigned for so many years. It appears that it can be of use in distinguishing parenchymal from obstructive jaundice. The requirements are somewhat selective, but it is surprising to find how often it can be of assistance in a general hospital or clinic outpatient setting. There does not appear to be a precedent for its use in this context, judging from a medical literary review[1] and specific queries directed at experts in the field of laboratory medicine and enzymology.

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Presented at the Roanoke Academy of Medicine Seminar, Montego Bay, Jamaica, February 5, 1979. Revised and submitted 8-22-79.

Emphasis on cost considerations further accentuates the potential usefulness of this test in a workup of patients with jaundice of 1-2 weeks duration. In conjunction with a history and physical examination, it seems to have had a higher degree of accuracy than the initial impression of the physician early in the patient's hospital course.

Materials and Methods

Fifty-three patients have thus far been selected for study by a variety of diagnostic protocols (not all of which are listed in Tables 1 and 2), including a determination of total serum acid phosphatase. A great majority of these were seen in the Lewis-Gale Hospital or clinic and were clinically jaundiced for a period not exceeding 2 weeks prior to their test workup. The test battery selected for review included serum bilirubin, direct and indirect; isocitric dehydrogenase; total serum protein; albumin; alkaline phosphatase; serum glutamic-oxalacetic transaminase; and total lactic dehydrogenase. To permit better comparison of enzyme values, the top normal figure was given a unit designation and elevations were expressed in terms of the unit value or multiples of it. Two charts were compiled with this data: Table 1 on cases proving to have obstructive jaundice and Table 2 on cases proving to have parenchymal or nonsurgically correctable jaundice.

Methologies used in determining total serum acid phosphatase:

- Total acid phosphatase, Anderson & Fishman.
- Alkaline phosphatase, ACA (Dupont) method.
- Albumin, Bromcresol green dye method.
- Total protein, Biuret method.
- Bilirubin, Jendrassik method.
- Isocitric dehydrogenase, SIGMA (Bulletin 150, revised Sept. 1965, recently replaced by gamma glutamyl transferase ACA (Dupont) Szasy procedure).
- LDH and SGOT, ABA procedure, Abbott Laboratories.

Discussion

Acid phosphatase is among a number of hydrolytic enzymes

A. Causes for an elevated serum acid phosphatase level are:

1. Physiological: following prostatic massage; bone growth; pregnancy.
2. Carcinoma of prostate: localized—elevated in 25%; metastatic—false negative in 20%.
3. Bone lesions, osteolytic and osteoblastic: hyperparathyroidism; Paget's disease; primary and secondary bone cancer.
4. Hepatic disease: metastatic cancer; viral hepatitis; alcoholic hepatitis.
5. Myocardial infarction (occurs within hours of onset; peaks within 2-3 days).
6. Acute renal disease.
7. Hematologic disorders: hemolytic anemia (sickle cell disease in crises); multiple myeloma; thrombocytopenia and thrombocytosis; thromboembolism.
8. Reticuloendothelial disease: Gaucher's disease; Neimann-Pick disease; eosinophilic granuloma; histiocytic lymphoma; Hodgkin's disease.
9. Trisomy-21.

B. Causes for low serum acid phosphatase levels are:

1. Anticoagulants—oxalate, fluoride, heparin.
2. Fever of unknown origin.
3. Bone marrow failure.
4. Terminal uremia.

which occur in lysosomes within body cells. The prostate gland contains approximately 100 times more than other tissues, but high cellular concentrations may also be found in the stomach, liver, muscle, skin, spleen, erythrocytes, bone and platelets. Elevations may, on occasion, be seen both in thrombocytopenia as well as thrombocytosis. Patients with gastric carcinoma may exhibit impressive amounts of the enzyme in gastric aspirates, and serum elevations have been described in myocardial infarction or arterial embolism 2—3 days later.

Most physicians associate the acid phosphatase test and the concept of elevated levels with carcinoma of the prostate gland. Its conventional usefulness apart from the latter condition is essentially nil. Wolf, Williams, and Von der Muehl[2] compiled a comprehensive table of conditions in which serum elevations or depressions of total acid phosphatase occur. However, these apparently have not stood the test of time and the procedure has been limited to investigation of potential cases of prostatic neoplasia with the precaution that mechanical pressure and prostatic infarction can produce

Table 1. Obstructive Jaundice: Comparison of Total Acid Phosphatase with Four Other Liver Function Tests.

	Age—Sex—Disease	Total acid phosphatase 0–11 mU/ml	Total Bilirubin 1.25 mg/dl	Alkaline Phosphatase	SGOT	Total LDH
				Reported as the number of times the maximum normal value for the test or within normal limits (N))		
1	46-M-Acute cholecystitis	3.2	3.0	2.3X	2.7X	N
2	57-M-acute cholecystitis +Cholelithiasis +Perforated gallbladder	5.0	2.9	1.2X	1.1X	N
3	82-F-Gangrenous cholecystitis	7.5	2.9	1.1X	1.3X	N
4	87-M-Acute cholecystitis	3.2	3.6	N	N	1.15X
5	80-M-Acute choledocholithiasis	3.2	4.0	N	1.3X	1.25X
6	79-M-Acute cholecystitis and Cholangitis	7	2.9	N	1.3X	1.3X
7	73-F-Acute choledocholithiasis	8	5.0	3X	6X	1.05X
8	62-M-Common duct stone	3.2	9.5	2.9X	7.5X	1.1X
9	61-F-Acute choledocholithiasis and cholangitis (liver biopsy)	12	6.9	2.5X	24X	2.1X
10	45-F-Acute cholecystitis and choledocholithiasis	6	3.5		2.5X	N
11	53-F-Acute cholecystitis, cholethiasis and choledocholithiasis	10	7.3	1.4X	4X	N
12	55-M-Cholelithiasis	6.5	7.4	1.36X	6.7X	1.04X
13	71-F-Common duct stone (with pancreatitis)	4.3	4.47	10.1X	N	N
14	85-M-Common duct stone	5.5	5.3	6X		4.7X
15	68-F-Acute cholecystitis with cholelithiasis	7	5.9	4X	4.4X	1.1X
16	91-F-Choledocholithiasis	6	2.7	1.6X	2.3X	N
17	60-F-Acute cholecystitis & choledocholithiasis	3.8	5.1	6.4X	6.4X	1.2X
18	80-F-Abdominal pain for 1 month & developed jaundice: choledocholithiasis found at surgery	9	4.5	2.6X	2.4X	N
19	63-M-Common duct stone	4.3	6.9	4.7X	2X	N
20	82-F-Choledocholithiasis with calculus cholecystitis	10	8.5	2.3X	5X	N
21	20-F-Cholelithiasis	9.2	5.6	2.8X	4.62X	
22	67-M-CA of cystic and common duct with occlusion	7.4	19.2	3X	1.2X	N
23	68-F-Perimampullary CA	8.5	13.4	2.6X	4.2X	1.03X
24	49-M-CA of head of pancreas	0.7	9.0	1.4X	5X	1.2X
25	63-M-CA of head of pancreas	8	7.9	2.3X	5X	N
26	76-F-Adenocarcinoma of pancreas	8.7	22	10.1X	4.3X	N
27	29-M-CA of pancreas	9.4	5.14	5.6X	8X	1.3X
28	40-M-Alcoholic pancreatitis	3.2	2.9		1.5X	2.07X
29	40-M-Alcoholic pancreatitis	9	2.8	N	1.6X	1.45X
30	38-M-Alcoholism, pseudocyst of pancreas following pancreatitis	10	15.3	8.1X		N
31	52-M-Pancreatitis	9.0	6.1	8.7X	3.3X	1.5X

The majority of the patients listed in this table were seen at the Lewis-Gale Hospital, except for one (24), who was seen at the Veterans Administration Hospital, and four (15, 16, 18, 23), who were seen at the Community Hospital. The difference in techniques and normal values at the three institutions prompted the listing of values as above.

false positive elevations. It has since been replaced in most labs by the more specific prostatic acid phosphatase test.

In liver disease the literature suggests that there may be liberation of acid phosphatase from necrotic parenchymal cell (lysosomes therein) along with glutamate dehydrogenase (from mitochondria). This would account for elevated serum total acid phosphatase levels in viral hepatitis, drug-induced hepatitis, and often in cases of metastatic hepatic carcinomatosis as well as in active alcoholic hepatitis. Previous authors listed elevations in cirrhosis of the liver (not otherwise qualified), but much of this impression was gained prior to the appreciation of the concept of alcoholic hepatitis with its often diffuse, severe parenchymal cell destruction that may be minimal or absent in stable or uncomplicated cirrhosis. It is also known that oliguria or anuria may be associated with elevated serum levels by virtue of impaired or delayed elimination of the enzyme. There are no references to the use of total serum acid phosphatase in the differentiation of parenchymal from obstructive jaundice.

Results

An analysis of Table 1, which lists the 31 cases of proven obstructive jaundice, shows that serum acid phosphatase determinations made early in the course of clinical jaundice (1-14 days) were normal in 96.7% or 30 out of 31 patients. (The one in whom it was elevated did not have short-term illness and had microscopic evidence of accompanying cholangitis and liver cell inflammation.)

Table 2, which lists 22 patients having hepatocellular disease manifested by jaundice of 1-14 days duration, shows that 81.8% or 18 out of 22 patients had elevated total acid phosphatase values and the remaining four had values at the upper limits of normal variation.

In the entire group of 53 patients, had we used only the previous history (with particular emphasis on the use of alcohol, drugs or the presence of chronic jaundice) and the total serum acid phosphatase value, we would have recommended further studies and/or surgery in 27 out of 27 patients with surgically amenable disease.

We would have advised against surgery (with the added assistance of the serum amylase value) in patients who had pancreatitis and in the 22 additional patients with acute hepatocellular disease.

The test did not prove to be of value in liver disease unaccompanied by clinical jaundice or in cases of chronic jaundice, such as those having biliary or portal cirrhosis uncomplicated by toxic or active phases of their disease. The same is true of Gilbert's disease.

Conclusions

In an era of sophisticated, time consuming and costly diagnostic techniques such as grey-scale sonography (approximately $45), CT scan (approximately $200), IV cholangiography (approximately $125), or percutaneous transhepatic cholangiography (approximately $125), there appear to be effective methods

Table 2. Parenchymal Jaundice: Comparison of Total Acid Phosphatase with Four Other Liver Function Tests.

	Age—Sex—Disease	Total acid Phosphatase – 0–11 mU/ml	Total Bilirubin 1.25 mg/dl	Alkaline Phosphatase (Reported as the number of times the maximum normal value for the test or within normal limits (N))	SGOT	Total LDH
1	61-M-Alcoholic hepatitis	17	28	7.4X	5X	2.3X
2	69-F-Alcoholic hepatitis	23	3.1	1.6X	5.3X	1.2X
3	55-F-Alcoholic hepatitis	18.5	26.9	2.2X	2.3X	1.07X
4	71-F-Alcoholic hepatitis	14.5	3.8	2.2X	8.3X	1.9X
5	37-M-Alcoholic hepatitis	19.5	2.7	1.5X	12.7X	1.3X
6	54-M-Alcoholic hepatitis	11.9	28.1	1.8X	3.6X	1.05X
7	55-M-Alcoholic hepatitis	14.4	20.2	2.2X	2.5X	N
8	70-M-Alcoholic hepatitis greater than	15.0	41.2	3.8X	11.1X	
9	10-M-Infectious mononucleosis	10.0	5.4	1.9X	2.2X	1.7X
10	15-F-Infectious mononucleosis	12.0	5.9	3.1X	7.5X	3X
11	14-M-Infectious mononucleosis	14.3	6.9	2.9X	4.6X	2.8X
12	20-M-Infectious mononucleosis	13.5	12.8	1.4X	21X	2.2X
13	43-F-Infectious mononucleosis	11.2	3.7	7.6X	8.8X	2.2X
14	25-M-Hepatitis B	10	7	1.04X	23.5X	1.7X
15	31-M-Viral hepatitis	11.0	9.7	1.6X	26X	1.3X
16	42-M-Viral hepatitis	12.0	8.0	1.2X	25X	1.5X
17	22-M-Viral hepatitis	15	2.46	1.2X	12X	1.07X
18	44-F-Hepatitis B	26.5	12.8	2.2X	40X	5.02X
19	43-M-Hepatitis B	22.5	8.3	2.3X	10X	2.1X
20	46-M-INH hepatitis	10	18.6	1.2X	N	N
21	60-F-Aldomet hepatitis	14.4	8.6	1.5X	40X	3X
22	58-F-Aldomet hepatitis	14.0	10.3	3X	35X	1.2X

for arriving at a differential diagnosis of early jaundice and potentially reducing the number of hospital days (approximately $160/per) required for the workup. In spite of this, there might well be room for a simple, inexpensive (approximately $7.50) non-invasive, readily available test (which has been with us for a long time) to help point the way in a more rapid, efficient, cost-effective manner. In spite of the growing number of "aides", puzzling diagnostic problems remain, and not infrequently physicians find themselves operating on "medical" jaundice cases and delaying operation on surgically correctable jaundiced cases.

To relate the hospital experience to a dollars and cents consideration, a history and physical (approximately $30—$50), coupled with a fractional bilirubin determination (approximately $9), SGOT (approximately $7), LDH (approximately $9), and an alkaline phosphatase determination (approximately $7.50) or SMA-12-14 or its equivalent (approximately $13) are obtained along with a hospital bed (approximately $160). Deviations from a classical picture of discrepant results may require repetition or additional tests adding more hospital days to the total bill.

If the serum bilirubin exceeds 3 mg/dl, it is unlikely that a cholecystogram (approximately $41) would visualize the gallbladder, and sonography of the pancreas (approximately $45) might then be indicated. The accuracy of the latter procedure is estimated to be 77-96%. Depending on the outcome of this, IV cholangiography or transhepatic cholangiography might be warranted, with an expected accuracy of over 90%. A CAT scan has not infrequently been resorted to at an estimated accuracy of 88% (this value seems to be declining with greater experience in its utilization). A residue of unresolved problems might require pancreaticoduodenography or surgical exploration (approximately $300 and up). The unresolved problem becomes increasingly difficult to categorize accurately as the delay lengthens, so there is a higher probability of having to use surgical exploration as the definitive procedure.

It is felt that a total acid phosphatase test added to the admission profile or test panel for early jaundice, along with the careful history and patient examination, offers promise of pointing toward the subsequent test selections early in the patient's clinical workup. There is hope that a normal value may permit early sheduling of tests to demonstrate the biliary passages and possibly reduce the length of the hospital stay. Elevated total acid phosphatase in early jaundiced patients may point to conservative or expectant management with or without hospitalization and omission of some of the more expensive test procedures. We feel that there is sufficient justification to explore the possibilities which may be inherent in the screening potential of the test.

Summary

There now are more means to evaluate the liver and biliary tract than ever before, yet we seem to have overlooked an old standby that is inexpensive, non-invasive and is readily available as an addition to the admission test panel for a new or recent case of clinical jaundice. Its intelligent use in conjunction with a clinical history and patient examination may permit omission of hospitalization under well defined circumstances or assist in the early scheduling of appropriate tests, minimizing hospital delay.

The test proved to be more accurate in recent obstructive jaundice than any of the other standard liver function tests with which it was compared. This attributed to the consistent lack of significant elevation in short-term cholangitis. When parenchymal damage reaches sufficient severity to produce clinical jaundice, there generally is enough cell damage to elevate serum total acid phosphatase values above the top normal range.

There was a greater degree of correlation with normal values and early obstructive jaundice (30/31) than in early parenchymal jaundice with its above normal values (or top normal levels as seen in four of 22 patients). Eighteen out of 22 showed elevated values.

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Editor's Note: One of this article's reviewers, who has a particular interest in liver disease, made the following comment:

This is an interesting and provocative paper. It makes an important point about the usefulness of an inexpensive, readily available test. Unfortunately, there are a number of patients (six) with parenchymal jaundice who have acid phosphatase levels in the 10-11.9 range, and nine of the 31 patients with "obstructive jaundice" have values of 9 or above. These values are too close together to permit great confidence in avoiding operation, percutaneous cholangiography, or other invasive and/or expensive tests.



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EDITORIAL

The Diagnosis and Treatment of "Groupthink"

Thou must be like a promontory of the sea, against which, though the waves beat continually, yet it both itself stands and about it are the swelling waves stifled and quieted.
—Marcus Aurelius

CURRENTLY, I am serving in several national organizations whose responsibilities include formulating decisions which influence medical education, residency training, certification, and postgraduate education. These are areas which affect all of organized medicine. I entered this new world of medical politics ungrounded in committeemanship. Overwhelmed by the opportunity to serve with medical leaders of national repute, I attempted a discreet apprenticeship to learn the structure and rules of conduct and quickly found there was little in my experience to prepare me for the phenomena I observed concerning interpersonal relationships. More particularly, I was disconcerted to see individuals whom I knew to be lions in their own lairs transformed into passive lemmings in committee. In this setting, personal principles, intellectual courage and strong conviction seemed to evaporate under the stress of decision-making or group pressure. Occasionally, overt hostility between members became apparent, obviating clear thinking and producing poor decisions.

Puzzled and concerned, I despaired of comprehending this paradox. While discussing these observations with Dr. Brian Holmes, Dean of the University of Toronto School of Medicine, he told me of a remarkable little book entitled "Victims of Groupthink", by Irving L. Janis[1]. This book served as my introduction into the field of group dynamics, a discipline that has been one of my most exciting intellectual experiences. In the pages of this book unfolded perfect descriptions of the group behavior I had observed and lamented, as well as explanations for them.

Janis' book is founded on the premise that many poor governmental decisions have been based on the phenomenon of "groupthink". This Orwellian-like term was coined by him. Simply stated, groupthink describes the behavior of decision-making group members who become more concerned with retaining the approval of their fellow members than with formulating good solutions. Janis explores and convincingly demonstrates how groupthink may have led to such fiascoes as the disaster at Pearl Harbor, the Bay of Pigs invasion, the invasion of North Korea, and the escalation of the Vietnam War. He also counters by showing how good committee work led to the success of the Marshall Plan and the handling of the Cuban missle crisis. I am now convinced, by may own experience, that groupthink is endemic in many of our national policy-making bodies and that it is responsible for many unfortunate decisions in organized medicine adversely affecting our lives as physicians.

There are several well documented phenomena in

group dynamics which affect their performance. In describing them, I draw freely from Janis' work.

First, there is the important element of group cohesiveness. When cohesiveness is strong, all the members express solidarity, mutual liking, and positive feelings about attending meetings and carrying out routine tasks.

Second is conformity pressure. Whenever a member expressed opinions differing from the group's, other members will at first increase their efforts to sway the maverick. However, if they fail in their attempts, communication decreases and members then exclude him, subtly at first, and then more obviously. This may truly become social ostracization. The more cohesive the group, the greater the inclination to reject a non-conformist.

Thirdly, members concerned with consensus develop cliquish relationships to restore harmony, and these cliques predetermine the agenda and often the outcome of the meeting. In short, they stack the deck. I have attended many meetings in which I had the feeling that I was watching a well rehearsed play, rather than an open forum. This need for total agreement interferes with critical thinking. Groupthink is used when people in a cohesive group are deeply involved with striving for unanimity. They ignore the long-term results of their decisions and inadequately consider alternative courses. Cohesiveness for its own sake then becomes a destructive force.

My experience in policy-making committees is identical with Janis' description. A dominant characteristic in groups with long relationships is loyalty to decisions the group has made: even when the policy is working poorly; even when the stimulus for the policy no longer exists; and even when unintended consequences disturb the members' consciences. The real danger is that the more amicable and cohesive the group, the greater the chance of groupthink. This uncritical thinking is likely to result in unfortunate repercussions against nonparticipants. For example, the loss of the free standing internship, at the hands of the Millis committee, a decision we are now struggling to reverse, and medical specialty recertification as conceived by the American Board of Medical Specialties. To my mind, the latter is a pure product of groupthink. The original stimulus for the creation of recertification was the threat that the government would institute recertification. The government is now admittedly interested only in cost containment, not quality of care; but recertification, having been put into action, plods on relentlessly to no useful purpose. Recently, a growing opposition to recertification has become evident; perhaps this poorly thought out concept will eventually die a well deserved death.

WHAT are some mechanisms that induce policy makers to slide into groupthink? The first is awe, which I experienced when initially introduced into such a group. If the novice is overwhelmed by the reputation and apparent sophistication of the senior members, he may be hesitant to express his opinions or objections.

The second mechanism is assumed consensus, a curious atmosphere resulting when participants fail to express their own opinions. They are silenced by fear of losing membership approval. I experience this phenomenon in my own staff meetings. Hearing no criticism of proposed actions, I assume they agree with me and later learn, through the grapevine, that indeed there was no agreement, only silence.

The third mechanism is "mindguarding", described by Janis as suppression of opposing viewpoints in order to maintain consensus. Committee members suffering mindguarding cling to their conclusions, despite evidence challenging them, nor do they respond to warnings about long-term consequences of their proposed actions. This description nicely depicts the present recertification situation.

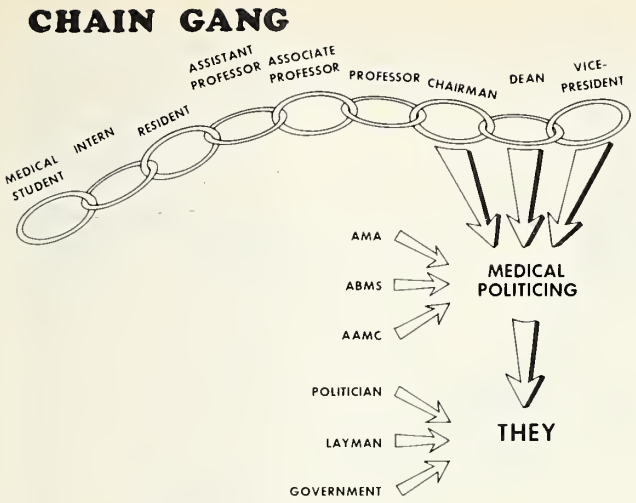
A fourth mechanism is docility fostered by suave or domineering leadership. The group's agenda and its actions can be subtly manipulated by a skillful leader, often with tacit membership approval. Opposing arguments die of the leader's deliberate neglect or are nullified by his disapproval. In a cohesive group, the more forcefully the leader promotes his own opinions, the greater the chances of consensus based on this mechanism.

The first two of these mechanisms are self-induced. The last two are committee-induced.

Who is susceptible to groupthink? Psychological studies show differences in individual responsiveness to social pressure. Some people yield consistently to the majority view, while others adhere rigidly to their own judgments. People most concerned with approval and acceptance are most apt to be conformists.

There is also a problem of internal personal stress. The basic theory of groupthink involves the quest for total agreement, and this often entails the need for mutual support. In each member, group deliberations generate conflict between personal feelings towards the value of the decision and the demands of political goals. The member under stress may feel a loss of self-esteem in sacrificing his own beliefs for the committee goals. Or he may feel the choices are beyond his own competence. His reaction to these stresses is non-participation, resulting in assumed consensus with his fellow members.

What groups are susceptible? The more isolated



and insulated the body becomes, the greater the risk that its policies will be the result of groupthink. Cohesive and friendly groups also have an increased susceptability, for a fraternity-like atmosphere discourages dissent.

It is my opinion that groupthink is particularly acute in medical circles. I believe that the problem has its origins in the very nature of our educational process, where approval-seeking behavior is instilled by design. Independent students are often labeled troublemakers, and on the whole, students are not encouraged to think critically. For survival, they covet the approval and sanction of their teachers.

For the most part, the code of accepted behavior in medicine is a deferential one to the next authority figure. This is evident on every ring of the professional ladder or "chain gang", where it seems that regardless which link one occupies, there is always someone of greater authority. Utimately, the links are occupied by non-medical entities.

As a group, we physicians do not have an admirable record for standing fast against strong, prevailing, political winds. American medicine is torn apart by our endless attempts at appeasing all our critics—the government, the media, the consumer advocates, and those who would make political issue of our problems.

What I term the "governmental carrot" is another important pressure leading medicine into groupthink mentality. Poor financing of medical education has led academic medicine into an almost Pavlovian reflex of accepting any governmental program that is well laced with money. Our response is fiscally inspired groupthink. (Ironically, these programs themselves are often groupthink products of non-medical politicians.) We convince ourselves that these programs have merit and fulfill a real need, but in reality we crave the funds.

JANIS has suggested a number of prescriptions which may be helpful in obviating groupthink in committee organization. Each of these has benefit but entails some risk. It may be too idealistic to hope that any organizing medical body would systematically explore these suggestions, but I think that it is worthwhile to consider some of them.

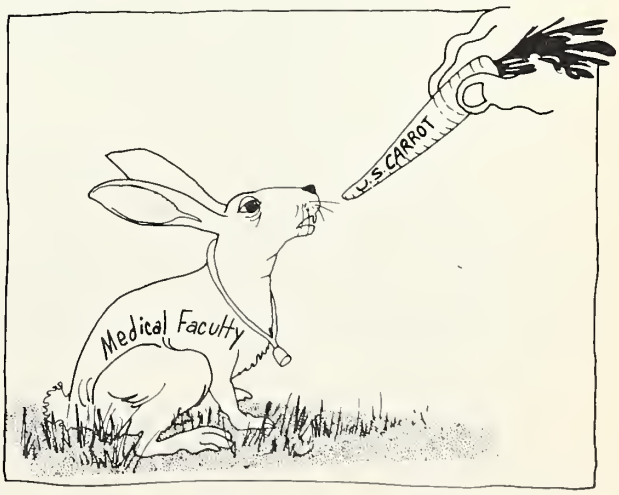
1. The leader should encourage the group to air objections and doubts. He must be able to accept criticism so members don't subvert their objections.

2. When charging the committee, the leader should be impartial instead of stating personal preferences and expectations. The risk is that the committee may assume a direction not to the liking of the leader. If the leader is rigid, this can lead to a power struggle standoff or dissolution of the committee.

3. When dealing with sensitive or critical issues, the organization should establish several independent planning and evaluation groups all working on the same question. Each subcommittee should have a different leader. This would prevent an elite power group from insulating itself from outside opinions. To my knowledge, this has never been done in a medical group. The hazard in this suggestion is that no subcommittee will feel totally responsible and nothing will get done, or the groups may become competitive.

4. Most medical policy committees are comprised of many organizational representatives. Periodically, each representative should leave the cloistered atmosphere of the policy group and report the committee's deliberations to his home organization for feedback. His colleagues may then give him new insights and suggest fresh solutions. They may also provide psychological support to help him maintain any convictions that may be unpopular in the policy committee. I have found this effort very worthwhile.

5. Executive committees should invite knowl-



edgable colleagues to their meetings. This will counteract a false sense of security about risky decisions. These experts must express their opinions or the effort is useless. The risk is that the committee may ignore their advice.

6. At every meeting where policy alternatives are evaluated, at least one member should be assigned the role of devil's advocate. Of course, it is important that this individual not be tamed, or silenced, else the group will assume consensus. In real life this person is usually self-appointed, unpopular, and may have a limited committee life expectancy.

7. If a consensus on a major policy is reached too easily, it may be wise to hold a "second chance" meeting. Often, easy consensus results from poor understanding of the question. In Roman history, Tacitus claimed the Germans had a custom of arriving at a decision twice, once sober and once drunk. Some forum for allowing second thoughts, freely expressed, might break down a false sense of unanimity. Members' doubts, if expressed in a less formal atmosphere, may be reinforced and then reappear at the next meeting as serious objections.

Bringing all of this into practicality, you should ask yourself if the disease, groupthink, has evidenced itself in your committees. This acknowledgement may caution you to adopt a psychological attitude that encourages you to voice critical, sensitive, and even unpopular issues whenever there are signs of complacency or premature consensus. A leader or member who is aware of groupthink symptoms might promote and encourage hearing from those who have not participated.

At the personal level, individual integrity and moral fiber are the responsibilities of policy makers who govern, and we are all probably guilty of avoiding involvement in difficult decision-making. Many times, our leadership is drawn, not from the ranks of the qualified, but rather from those with political ambition, who volunteer. In addition, committees often select individuals to fill vacancies who are known to be tractable and manageable, further contributing to the singlemindedness of the group.

In his popular best seller, "Your Erroneous Zones",[2] Dr. Wayne W. Dyer points out that one can't go through life without incurring a great deal of disapproval. It is a product of being an individual. At least half of the people you encounter will disagree with half of what you say. Disapproval in itself should not lead to feelings of personal rejection and



the demise of an idea that you believe sound. When observed in proper perspective, the irritating nonconformist may be the most valuable member of the committee, provided his objections are not motivated by useless game-playing, or ego gratification.

Control of groupthink demands courage and conviction to maintain honesty and integrity in the face of group pressure. The dangers to medicine come not entirely from without. We are, at times, victims of our own poor decisions.

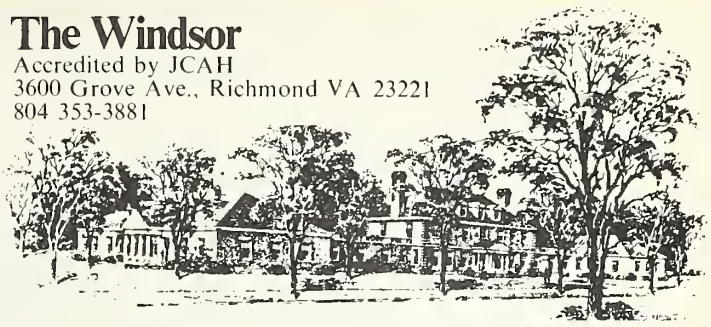
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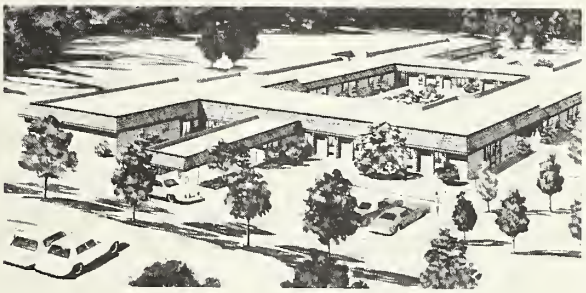
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VIRGINIA MEDICAL OBITUARY

Romaine Mason, MD

Dr. Mason Romaine, Petersburg's first health department officer and former director of the State Health Department's Bureaus of Cancer Control and Communicable Disease Control, died January 10. He was 85 years old.

Dr. Romaine received both undergraduate and medical degrees from the University of Virginia and his master's degree in public health from the Johns Hopkins Hospital School of Hygiene and Health. He was named Petersburg's first full-time health officer in 1941 after serving as a clinician in the department following World War I. He had also served as chief of public health services for Virginia Civil Defense.

He had been a member of The Medical Society of Virginia for 58 years and belonged also to the American College of Physicians.

William M. Goldsmith, MD

Dr. William M. Goldsmith, family practitioner in Newport News for 35 years, died December 14 at his home in Hampton.

Dr. Goldsmith was born in Plymouth, Massachusetts, and was graduated from the University of Massachusetts. He earned his medical doctorate at the Midwest College of Medicine, Kansas City, Missouri, then trained at Riverside Hospital in Newport News. He was a member of both the Newport News and Hampton Medical Societies, The Medical Society of Virginia and the American Medical Association, and was a fellow of the American Academy of Family Physicians. For many years he had been a Newport News school physician and he had served on the boards of the Peninsula Heart Association and the Arthritis Foundation.

Turner S. Shelton, MD

Dr. Turner Southall Shelton, physician in Richmond for more than 50 years, died December 15 in a Richmond nursing home. He was 91 years old.

A native of Rural Point in Hanover County, Dr. Shelton was graduated from the Medical College of Virginia and attended Harvard University. He served his internship at MCV and at Richmond's Retreat Hospital, and went into private practice after serving in the US Army medical corps during World War I. Dr. Shelton was a long-time member of The Medical Society of Virginia and belonged also to the Richmond Academy of Medicine and the American Medical Association.

Herman F. Dormire, MD

Dr. Herman F. Dormire, retired Virginia Beach physician and former medical examiner for Princess Anne County, died January 1 in a Virginia Beach hospital. He was 82.

A native of Sidney, Ohio, Dr. Dormire was educated at Miami University, Oxford, Ohio, and received his medical degree from the University of Cincinnati Medical School. He served as medical examiner for Princess Anne County from 1938 until 1956 and was a co-founder of what is now General Hospital of Virginia Beach. Dr. Dormire had belonged to The Medical Society of Virginia for 53 years.

Memoir of W. S. Beazley, Jr. 1898-1979

By James A. Dalton, Jr., MD, A. Stephens Graham, MD, and John Boyd Bullock, MD

Dr. Wyatt Sanford Beazley, Jr. was born in Richmond on July 25, 1898. He died the 14th day of May, 1979, at his home. His father was a physician in Richmond for 48 years and a son is a surgeon in Richmond.

Dr. Beazley was educated at the University of Richmond and was a graduate of the Medical College of Virginia with extremely high grades. He subsequently interned at St. Francis Hospital in New Jersey and did residency work in obstetrics at the New York Foundling Hospital but elected to follow a career in family practice. One little known fact is that he was extremely athletic and was a wrestling champion during his school years at MCV. He served in the United States Army as a lieutenant in World War I.

Dr. Beazley practiced for 50 years from his office at home. His patients had implicit confidence in his care. No patient was too poor for him to help and he frequently could be seen making calls on those who were impoverished.

In the late 1950s he developed severe rheumatoid arthritis affecting all of his joints, yet despite severe pain and the frequent need for crutches, he could be seen climbing steps to make a home call on his patients. His hands were so affected by the disease he could barely grip the railing to pull himself up the steps, but he maintained a cheerful outlook and practiced continuously. Later his illness became so severe he was confined to a wheel chair and continued seeing his patients at home. In the last years he developed carcinoma of the prostate, which eventually was to take his life.

He had few avocations, other than reading history, and was extremely active as a director of Virginia First Savings and Loan Association and the Richmond Tuberculosis Association. At the time of his death, he was a member of the Grove Avenue Baptist Church, the American Medical Association and its local and state affiliated societies.

It humbled one to observe the courage he maintained with a paucity of complaints despite a crippling disability. He practiced to within three years of his death.

We salute a man who devoted his entire life to the practice of medicine and whose courage in the face of overwhelming physical disability and personal suffering would not let him stop. This service to his fellow man reflects the highest credit upon him and the medical profession in which he served so well, so long.

Memoir of C. M. Zacharias 1923-1979

By Earnest B. Carpenter, MD,
Emmett C. Mathews, Sr., MD,
and Lawrence C. Zacharias, MD

On October 27, 1979, the medical community in Richmond lost one of its most distinguished and outstanding members in the passing of Dr. Charles M. Zacharias, Sr. The loss to the medical community was great, but the loss to the citizens of Richmond was even greater.

Charles Zacharias was born in Richmond, educated in the public schools of Richmond, graduated from the University of Richmond and continued his academic career by attending and graduating from the Medical College of Virginia. He continued his medical education in the specialty of internal medicine at the Medical College of Virginia Hospital and McGuire Veteran's Administration Hospital. He discharged a part of his military responsibility prior to attending medical school and served an additional two years after completing his residency training. He entered practice with Dr. Emmett C. Mathews, Sr., and subsequently with his brother, Dr. Lawrence Zacharias.

Charles Zacharias soon demonstrated outstanding qualities and leadership and participated in many activities and committees of the Richmond Academy of Medicine. He served as an officer of the Richmond Society of Internal Medicine and the Virginia Kidney Foundation and was chief of staff of the Virginia Home.

Charles Zacharias continued his unusual abilities and dedication with the opening of St. Mary's Hospital. He was the first chairman of the department of internal medicine and served a number of years on the medical executive committee. He was president of the medical staff at St. Mary's Hospital from 1972 through 1976. He subsequently served as a member of the board of trustees of St. Mary's Hospital from 1976 through 1978.

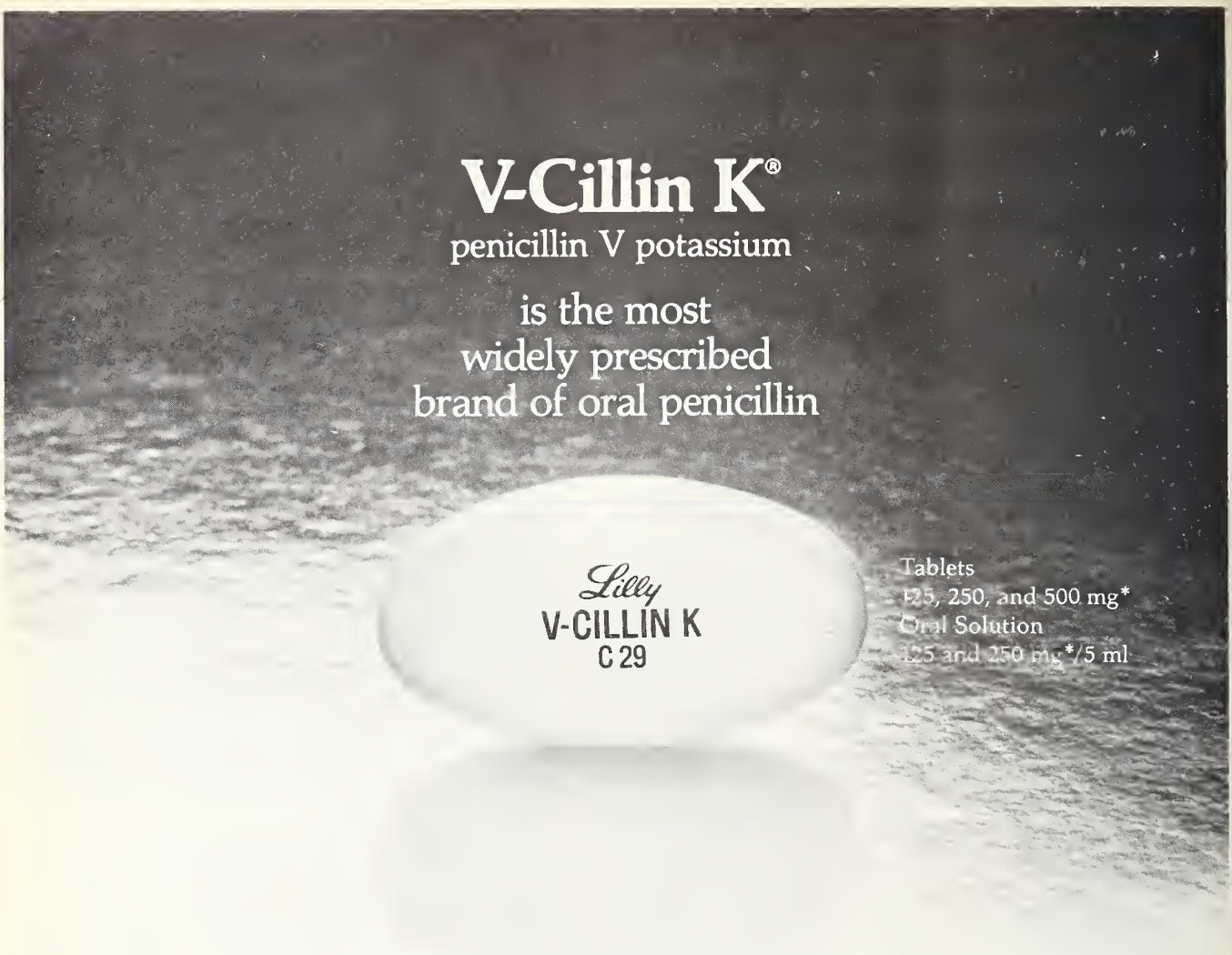
Charles Zacharias, a deeply religious man, was an active member of St. Edward's Catholic Church. His marriage to Ann Robins was blessed with two sons and five daughters. His eldest son, Dr. Charles Zacharias, Jr., a member of the Richmond Academy of Medicine, is already demonstrating many of the outstanding qualities of his distinguished father.

Charles Zacharias' greatest contribution was to the care of his patients. His kind demeanor, deep understanding and keen clinical judgement endeared him to his legions of patients. His passing leaves a void in the lives of his patients that cannot easily be filled.

Charles Zacharias was president of the Richmond Academy of Medicine at the time of his death. He had previously served many times as a delegate to The Medical Society of Virginia. His contributions to the Academy span many years with wise, calm advice and firm conviction when indicated. His courageous dedication to the fine tradition of medicine was evident in the conduct of his life.

The passing of Charles Zacharias has brought an irreparable loss to his wife and children as well as the Richmond Academy of Medicine and the citizens of his community.

The two foregoing memoirs prepared and published at the request of the Richmond Academy of Medicine.



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WHO'S WHO IN VIRGINIA MEDICINE

Dr. James R. Brunk, well known as an internist in *Harrisonburg,* is making another name for himself as an artist. His first one-man show, a collection of watercolors, was put together late last year by the Blue Ridge Community College in Weyer Cave, Virginia, and hung in the college's library.

Dr. Brunk is now enrolled in his seventh watercolor class at the college. "I've always been interested in art; my grandfather was an artist and he used to have me draw when I was a child", he is quoted as recalling in a feature story in the Waynesboro *News-Virginian.* Then two years ago a pamphlet arrived in the mail describing the art courses at Blue Ridge Community College; Dr. Brunk signed up and soon displayed unmistakable talent. At last count he had painted "at least" 90 watercolors. Local country buildings have been his favorite subjects, as witness his study of an old barn in the photograph on this page. His work has been included in group art exhibits in Harrisonburg, but the college show was his first one-man splash.

A graduate of Eastern Mennonite College and the University of Virginia School of Medicine, Dr. Brunk practices in Harrisonburg in association with two partners, serves as sports physician for the Montevideo High School in Penn Laird, Virginia, and is a clinical assistant professor of internal medicine at his alma mater in Charlottesville.

Dr. W. Leonard Weyl, *Arlington,* has been appointed to the board of directors of AMPAC, the national medical political action organization, by the trustees of the American Medical Association. Dr. Weyl is chairman of VaMPAC, the committee for Virginia; his report of that committee's current activities appears on page 170 of this issue.

For "outstanding contributions to the medical profession", **Dr. William N. Thornton, Jr.,** *Charlottesville,* will receive the Louise Obici Memorial Hospital Award this year. Dr. Thornton retired recently after 29 years as chairman of the Department of Obstetrics and Gynecology at the University of Virginia. He will receive the award at the hospital's Annual Clinical Conference to be held April 2 at the Suffolk Shrine Club. This is an all-day meeting, from 10:30 AM to 4:30 PM with a break for gratis lunch. The conference's program chairman is **Dr. George J. Carroll,** *Suffolk.*

Dr. Joseph S. Diasio retired to *Culpeper* two years ago after 50 years of practice in cardiology and internal medicine and wound up with a new medical career in geriatrics, as signified by his appointment as physician at the Culpeper Memorial Hospital Nursing Home. The American Geriatrics Society recently gave its seal of approval by admitting Dr. Diasio to membership, and his wife, **Clara Diasio, MD,** who also expected to retire, is helping out as a nursing home volunteer.

Dr. John B. McCraw, *Norfolk,* has been chosen as the associate travelling professor for 1980 for the American Society of Plastic and Reconstructive Surgeons and in that capacity will visit and lecture at plastic surgery and surgery centers throughout the United States and Canada on a fully funded travelling scholarship. Dr. McCraw's primary achievements have been in the development of myocutaneous flap reconstruction of extremity, head and neck, chest and perineal defects.

The Middle Peninsula Health District's new director is **Dr. Joanna M. Owens,** who has served Virginians in public health for the past ten years, most recently as director of the Mount Rogers Health District.



From partner practice to solo show: Dr. James R. Brunk.
Photograph by Sandy Harris for Blue Ridge Community College.

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From the President: Liability Claims up, Premiums May Follow

BAD NEWS was brought to The Medical Society of Virginia's Executive Committee at its most recent meeting. Executives of The St. Paul Fire and Marine Insurance Company, underwriter for the professional liability insurance program sponsored by the Society, revealed that claims paid in Virginia jumped in 1979 from among the lowest of the 50 states to among the highest. They came to the meeting, courteously, to explain the situation and to apprise the Executive Committee in advance of the steps they were planning to take.

They intended to file the company's experience with the State Commissioner of Insurance, they told us, and request of him an increase in premiums to cover the losses, plus a small percentage to give a minimal profit. The revised rate to be submitted to the Commissioner is an average of 33% increase in the base rate of $100,000/300,000 limits.

They invited us to hire an independent actuary, at their expense, to review the filing and give an opinion of the validity of the requested raise.

Should the Commissioner validate the company's position, then the increase in premiums would be instituted.

Details of the experience and the proposed raise in premiums are to be spelled out in a mailing that St. Paul is preparing, as I write this, and sending to all MSV members.

In the event that this substantial increase is granted and collected, the executives added, three things might occur. The company may find it has understimated the pressure of claims paid, or they may find they are pretty much on target, or they may find that the elevated premiums yield more than the small percentage earmarked for profit. If the third possibility comes about, the company will return to its physcian-subscribers a "dividend", we were told, so that excess profit does not accrue to the company.

Three of your Executive Committe members were at the meeting: Dr. Percy Wootton, Dr. H. C. Alexander III, and myself. We were agreed that the St. Paul executives had approached openly and honestly a very difficult problem. Even so, we were also agreed that all conceivable avenues must be explored to assure MSV members the greatest possible protection for the smallest possible premium.

First, Council has instigated two studies inquiring into the feasibility of forming either a mutual or a reciprocal insurance company sponsored by The Medical Society of Virginia. Under mutual and reciprocal plans, the policy holders constitute the members of the insuring companies; the two methods differ only in that a reciprocal company is empowered to assess its members. Two authoritative insurance consultants have been retained to study our situation and point out both the advantages and the perils in forming either kind of company. This investigation takes into account, of course, that we now have a competent insurance carrier willing to provide adequate coverage for eligible physicians.

The Virginia Hospital Association insures its member hospitals through a reciprocal insurance company. We might approach the Association with a proposal that it consider expanding its program to include individual physicians, partnerships, and corporations. I should here emphasize that I am speaking

hypothetically; no such formal proposal has been made by the Society to the Association, nor has any come from the Association to us.

As for mutual companies, two of these have served physicians in neighboring states for several years. Maryland Mutual insures all the physicians in Maryland; its books show a good record to this date. It is possible that we might approach this group to see if the company's charter could be amended to permit its entry into the Virginia market.

North Carolina also has a mutual insurance company, sponsored by that state's medical society, which has performed well. Its limited number of subscribers-claimants is vastly different from the Virginia experience, but, in spite of this, the North Carolina group might be interested in an approach from our Society.

As you know, insurance must work on the basis of recognizing a defined risk and then spreading this risk among as many insured persons as possible. Obviously, the larger the body of the insured, the smaller the premium needed to insure against the risk incurred. Physicians and insurance carriers everywhere have explored all areas, but no one has found a practical solution to the problem of mounting claims and soaring premiums.

Your officers are keenly aware of the magnitude of this problem. Be assured that we are taking all steps we consider feasible to continue to assure you of liability insurance coverage at the lowest possible premium level.

George M. Nipe, President,
The Medical Society of Virginia

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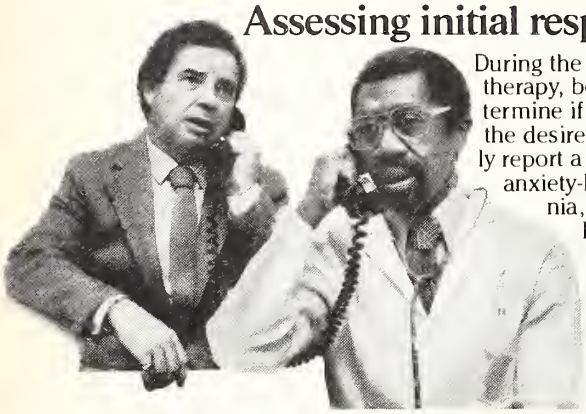
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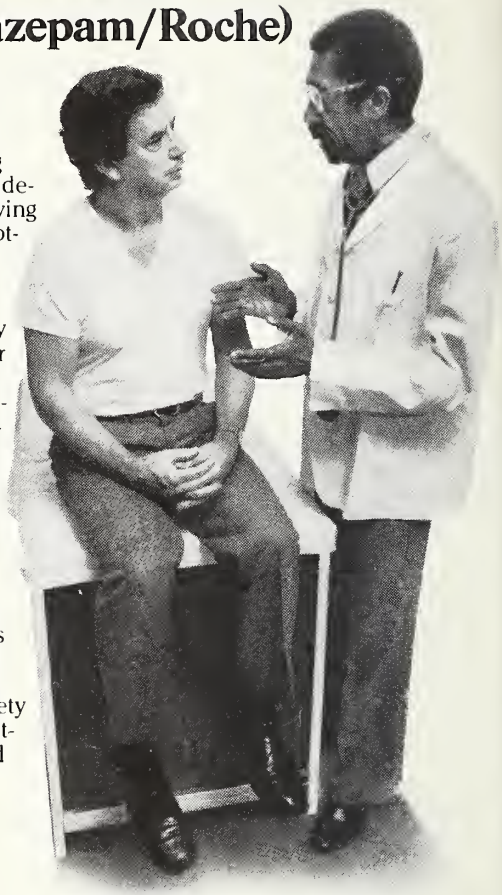
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Monitoring patient response to Valium® (diazepam/Roche)

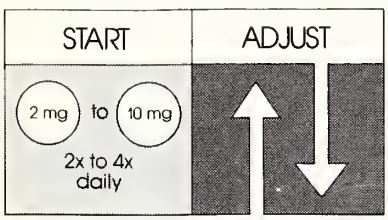


Assessing initial response to therapy

During the first follow-up visit after initiating therapy, both physician and patient should determine if Valium (diazepam/Roche) is having the desired effect. Most patients will promptly report a feeling of relaxation and relief of anxiety-linked symptoms such as insomnia, headaches, palpitations and hyperventilation. You will probably observe that the patient is calmer and more relaxed. If, however, patient response does not measure up to expectations, a reevaluation of the patient's profile with modification of the dosage regimen should be considered.



Making dosage adjustments



With any psychoactive medication it is good medical practice to initiate therapy at base dosage levels and titrate to the patient's needs. With Valium, experience has shown that 5 mg t.i.d. is usually sufficient although some patients with severe or persistent anxiety may require higher dosages initially. In geriatric or debilitated patients, the recommended dosage is 2 to 2½ mg once or twice daily. When anxiety fluctuates, as is common with most patients, the dosage may be adjusted as needed during the course of therapy; three strengths in scored tablets give you unmatched flexibility and simplicity in individualizing dosage.

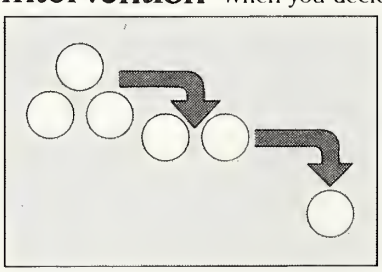
Evaluating progress toward therapeutic goals

SET GOALS						
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

At the beginning of therapy it is now common practice for both physician and patient to establish treatment goals and to estimate the amount of time needed to achieve them. Then the patient knows what to expect and when to expect it. Some physicians find that compiling a checklist of presenting symptoms and complaints is useful for assessing the patient's response from visit to visit. In this way, progress toward attainment of the therapeutic goal is reviewed at regular intervals. As patients feel their symptoms abate and begin to develop insight into the sources of their anxiety and psychic tension, the checklist can be expected to dwindle.

Discontinuing pharmacologic intervention

When you decide to discontinue therapy, tapering dosage is good medical practice. Although rarely necessary after short-term treatment with Valium, gradual dosage reduction is advisable for patients who have been on extended therapy. This gradual discontinuance should preclude either recurrence of pretreatment symptoms or development of untoward side effects. Symptoms of withdrawal have almost always been associated with abrupt discontinuance of therapy at higher dosages taken continuously over long periods of time.



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The effectiveness of Valium (diazepam/Roche) in long-term use, that is, more than 4 months, has not been assessed by systematic clinical studies. The physician should periodically reassess the usefulness of the drug for the individual patient.
Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.
Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms similar to those with barbiturates and alcohol have been observed with abrupt discontinuation, usually limited to extended use and excessive doses. Infrequently, milder withdrawal symptoms have been reported following abrupt discontinuation of benzodiazepines after continuous use, generally at higher therapeutic levels, for at least several months. After extended therapy, gradually taper dosage. Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence.

***Usage in Pregnancy:* Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.
Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.
Dosage: Individualize for maximum beneficial effect. *Adults:* Tension, anxiety and psychoneurotic states, 2 to 10 mg b.i.d. to q.i.d.; alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; adjunctively in skeletal muscle spasm, 2 to 10 mg t.i.d. or q.i.d.; adjunctively in convulsive disorders, 2 to 10 mg b.i.d. to q.i.d. *Geriatric or debilitated patients:* 2 to 2½ mg, 1 or 2 times daily initially, increasing as needed and tolerated. (See Precautions.) *Children:* 1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use under 6 months).
Supplied: Valium® Tablets, 2 mg, 5 mg and 10 mg—bottles of 100 and 500; Tel-E-Dose® packages of 100, available in trays of 4 reverse-numbered boxes of 25, and in boxes containing 10 strips of 10; Prescription Paks of 50, available in trays of 10.

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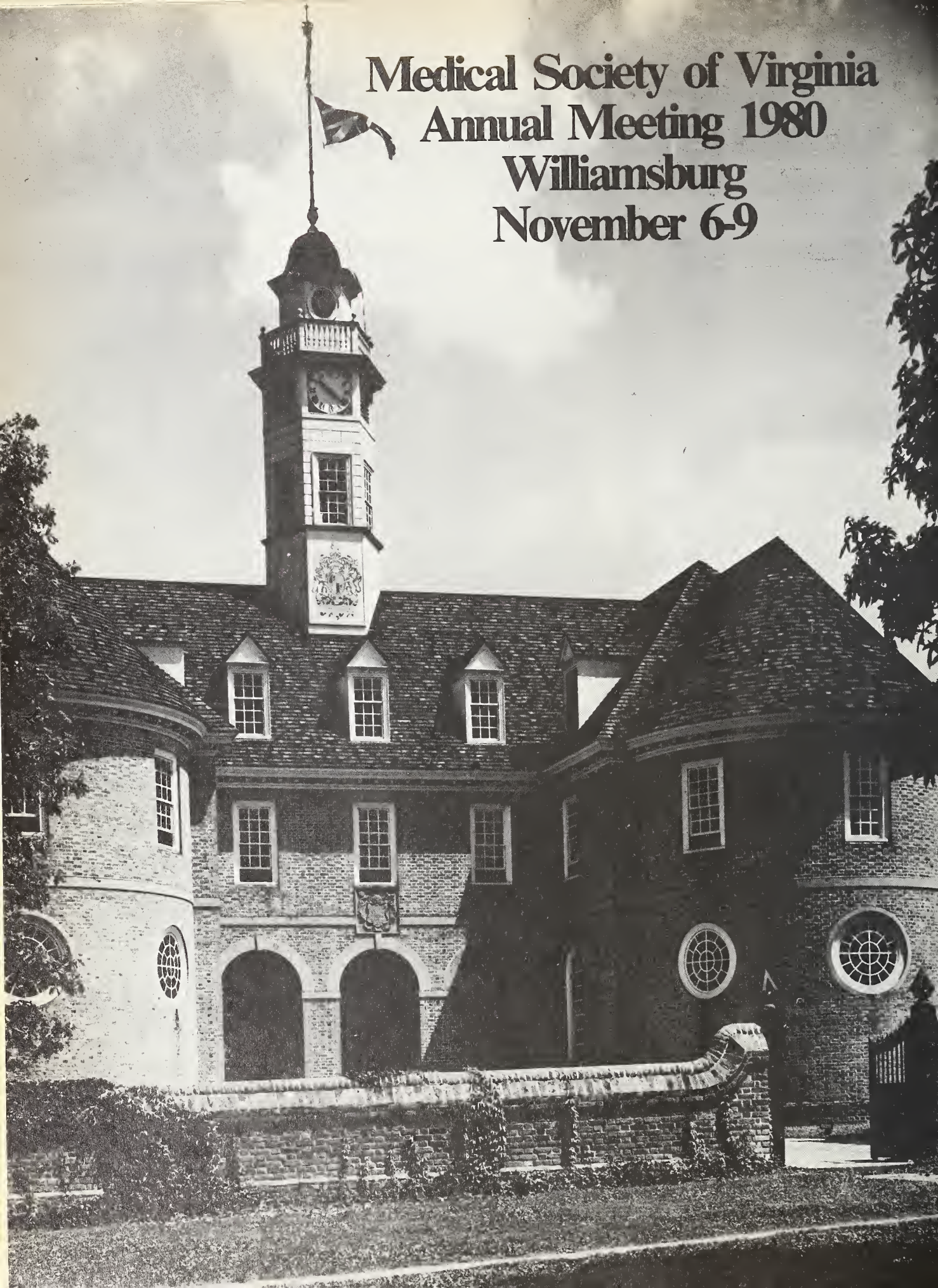
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MEETINGS ABOUT MEDICINE

PARTIAL CME CREDITS UNACCEPTABLE

The American Medical Association does not accept notice of partial credits for the Physician's Recognition Award. The entire 150 credits for the AMA-PRA must be recorded at one time. Registration of these complete credits may be made directly to the AMA or sent to The Medical Society of Virginia to be sent on to the AMA.

April 18
Mood Disorders in Children (Children's Hospital National Medical Center and George Washington University Medical Center), *Washington DC.* Susan Weiss, Convention Services, Children's Hospital, 111 Michigan Ave. NW, Washington DC 20010, (202) 745-3000.

April 18
19th Annual Swineford Allergy Conference (University of Virginia), University of Virginia Medical Center, *Charlottesville.* Mrs. Mary Lou Currier, (804) 924-5318.

April 24-26
Birdsong Pediatric Conference: General Pediatrics, Infectious Diseases, Neonatology, Endocrinology (University of Virginia), *Charlottesville.* J. Owen Hendley, MD, University of Virginia Medical Center, Charlottesville VA 22908.

April 25-27
2nd Annual Conference on Emergency Medicine for the Primary Care Physician (Medical College of Virginia), *Williamsburg.* 13 hrs. Cat. I. Fee, $150. Ms. Glenda Snow, Dept. CME, Box 48, MCV Station, Richmond VA 23298.

May 5-6
Medical Aspects of Sports: Symposium on Physical Therapy Rehabilitation of Athletic Injuries (University of Kentucky), Hyatt Regency Hotel, *Lexington, Kentucky.* Frank R. Lemon, MD, University of Kentucky College of Medicine, Lexington KY 40536, (606) 233-5161.

May 5-8
Diagnostic Radiology Update: 4th Annual Postgraduate Course (University of Virginia), Boar's Head Inn, *Charlottesville.* 16 hrs. Cat. I. Fee, $300. T. E. Keats, MD, Dept. of Radiology, UVa Hospital, Charlottesville VA 22908, (804) 924-2781.

May 6
Pediatric Ophthalmology (University of Maryland), *Baltimore.* Betty Saar, 10 S. Pine St., Baltimore MD 21201, (301) 528-3956.

May 7-10
61st Annual Meeting of the Virginia Society of Ophthalmology and Otolaryngology, Conference Center, *Williamsburg.* Donna Strawderman, 4205 Dover Rd., Richmond VA 23221.

May 11-16
11th Family Medicine Review, Session II (University of Kentucky) *Lexington, Kentucky.* Frank R. Lemon, MD, University of Kentucky, Lexington KY 40536, (606) 233-5161.

May 12-16
Radioisotope Techniques (North Carolina State University), *Raleigh, North Carolina.* Fee: $295. Jerome Kohl, PO Box 5125, Raleigh NC 27650, (919) 737-2303.

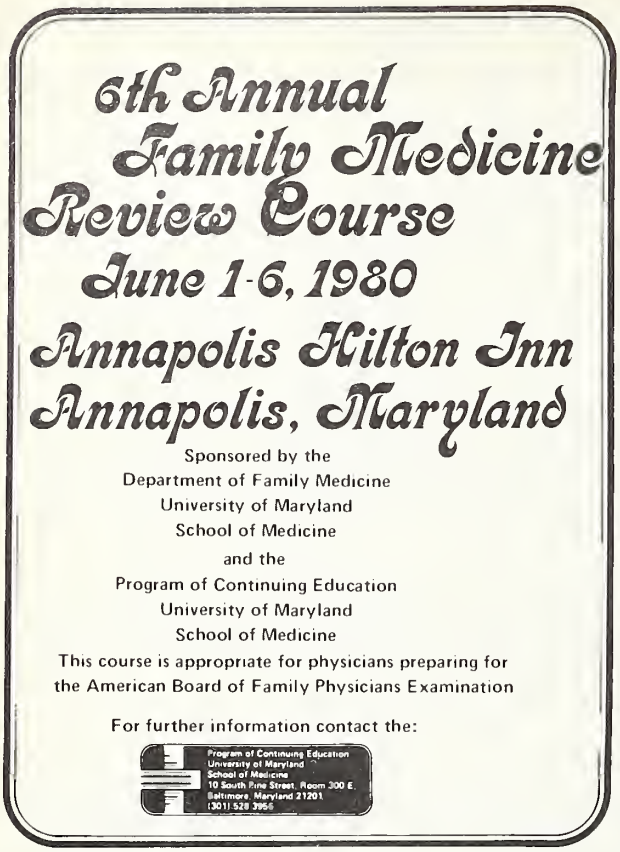
May 14
Rapidly Changing Areas in Cardiology: An Update (Medical College of Virginia), *Richmond* Academy of Medicine. 6 hrs. Cat. I. Fee, $65. Ms. Glenda L. Snow, Box 48, MCV Station, Richmond VA 23298, (804) 786-0494.

May 14-15
Continuing Medical Education Conference of the Virginia State Health Department, Best Western Mount Vernon, *Charlottesville.* 12 hrs. Cat. I. Bureau of Staff Development, James Madison Building, 109 Governor St., Richmond VA 23219, (804) 786-3165.

May 16-18
State Convention of the Virginia Society, American Association of Medical Assistants, Lake Wright Motel, *Norfolk.* Joyce Hurst, (804) 622-2677.

May 19-20
8th Annnual Hans Berger Day EEG Symposium (Medical College of Virginia), *Richmond.* Dept. of CME, Box 48, MCV Station, Richmond VA 23298, (804) 786-0496.

More meetings on the next page.



May 28-30
7th Annual Symposium on Recent Advances and Common Problems in Pediatrics (Children's Hospital National Medical Center/George Washington University Medical Center), *Washington, DC.* Lornice W. Greenberg, 111 Michigan Ave. NW, Washington DC 20010, (202) 745-5000.

June 1-7
6th Annual Family Medicine Review Course (University of Maryland School of Medicine), Annapolis Hilton, *Annapolis MD.* Betty Saar, (301) 528-3956.

June 5-6
First Annual Spring Symposium in Ophthalmology: Alternatives in Correcting Aphakia—Intraocular Lenses Vs. Extended Wear Contacts (Departments of Ophthalmology, Naval Regional Medical Center and Eastern Virginia Medical School), Sheraton Beach Inn, *Virginia Beach.* 12 hrs. Cat. I. Fee: $150 to physicians; $60 to residents/fellows/military. H. H. Weiler, MD, Box 96, Naval Regional Medical Center, Portsmouth VA 23708, (804) 397-6541, Ext. 862.

June 5-7
4th Annual Rehabilitation of the Traumatic Brain-Injured Adult (Medical College of Virginia), Fort Magruder Conference Center, *Williamsburg.* Cat. 1 credit applied for. Fee $175. Dept. of CME, Box 48, MCV Station, Richmond VA 23298, (804) 786-0494.

June 6-8
Cardiac Ischemia and Arrhythmias—Current Concepts for Diagnosis and Treatment (International Medical Education Corporation), Hospitality House, *Williamsburg.* 13 hrs. Cat. 1 AMA and ACEP; AAFP contact sponsor for details. Fee $215. IMEC, (800) 525-8646.

June 8-13
11th Family Medicine Review, Session III (University of Kentucky), Hyatt Regency Hotel, *Lexington KY.* Frank R. Lemon, MD, (606) 233-5161.

June 9-13 and **June 16-20**
Diagnostic Electromicroscopy: The Cell Biology of Disease (University of Maryland School of Medicine), *Baltimore MD.* Betty Saar, (301) 528-3956.

June 12-14
Selected Topics in Internal Medicine, Postgraduate (Medical College of Georgia), Holiday Inn, *Jekyll Island, Georgia.* Division of Continuing Educaton, Medical College of Georgia, Augusta, GA 30912.

June 13-14
Annual Meeting, Virginia Society of Hematology, Cavalier Hotel, *Virginia Beach VA.* 7 hrs. Cat. 1. Registration Fee $8.00.

June 13-15
EKG Interpretation and Arrhythmia Management (International Medical Education Corporation), Pinehurst Country Club, *Pinehurst NC.* 15 hrs Cat. 1 AMA; AAFP contact sponsor for details; 13 hrs. Cat. 1 ACEP. Fee $215. IMEC (800) 525-8646.

June 15-17
Annual Meeting, American Diabetes Association, Sheraton-Park Hotel, *Washington DC.* American Diabetes Association, 600 Fifth Avenue, New York 10020.

June 18-21
4th Annual Virginia Beach Update in Neuroscience (Medical College of Virginia), Sheraton-Beach Inn, *Virginia Beach.* 16½ hrs Cat. 1 AMA; 1.6 C.E.U.'s; AAFP applied for. Kathy E. Johnson, Dept. of CME, Box 48, MCV Station, Richmond, VA 23298, (804) 786-0494.

June 19-22
Annual Meeting, Seaboard Medical Association of Virginia and North Carolina, Holiday Inn, *Kill Devil Hills, NC.* Mrs. Annette Boutwell, (919) 821-2226.

June 20-22
Coronary Disease, Exercise Testing and Cardiac Rehabilitation (International Medical Education Corporation), Inn on the Park, *Toronto, Canada.* 13 hrs Cat. 1 AMA, AAFP. Fee $215. IMEC, (800) 525-8646.

LETTERS

A Salute to Senator Buchanan

The article on Doctor Buchanan[1] was super. It would be wonderful if we had more individuals like him and more voters willing to elect them.

Leon I. Block, MD

2946 Sleepy Hollow Road
Falls Church VA 22044

1. Shires CL: This Virginia doctor doubles as a senator. Va Med 107:100-103, 1980

Another View of Mediastinal Masses

I disagree with a statement made by Dr. Saha and Mayo in the January 1980 issue of VIRGINIA MEDICAL[1]. In their article about benign mediastinal cysts, they recommended surgical exploration of mediastinal masses because "no intrathoracic mass can be confidently considered benign without a biopsy". I would suggest that the workup of mediastinal masses should include a body CT scan after a barium esophagram is performed.

If the attenuation value (CT number) of an intrathoracic mass found on a CT scan is in the range of fat, no further workup is necessary. In addition, use of intravenous iodinated contrast material during the CT scan may show that the mass is a vascular structure[2,3], leading to an arteriogram and possibly vascular surgery, but not surgery for biospy.

Furthermore, if a mass is demonstrated to have a CT number in the range of soft tissue, a CT-assisted percutaneous biopsy might be performed, using the 22-gauge Chiba needle, obviating the risks of anesthesia and surgery[7]

In addition, depending upon the chest x-ray findings, a radionuclide thyroid scan should be considered to exclude the possibility of a substernal goiter.

Robert A. Woolfitt, MD

Department of Radiology
Norfolk General Hospital, Norfolk, VA 23507

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1. Saha SP, Mayo P: Benign mediastinal cyst: diagnosis and treatment. Va Med 107:46–47, 1980
1. Crowe JK, Brown LR, Muhm JR: Computed tomography of the mediastinum. Radiol 128:75–88, 1978
3. Jost RG, Sagel SS, Stanley RJ et al: Computed tomography of the thorax. Radiol 126:125-136, 1978
4. Faer MJ, Burnam RE, Beck CL: Transmural thoracic lipoma: demonstration by computed tomography. Am J Roentg 130:161-163, 1978
5. Mendez Jr G, Isikoff MB, Isikoff SK et al: Fatty tumors of the thorax demonstrated by CT. Am J Roentg 133:207-212, 1979
6. Rohlfing BM, Korobkin M, Hall AD: Computed tomography of intrathoracic omental herniation and other mediastinal fatty masses. J Comput Assist Tomogr 1:181-183, 1977
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VIRGINIA MEDICAL
APRIL 1980

Prediction of Postoperative Respiratory Function in Patients Undergoing Lung Resection

William R. Cooper, MD, John L. Guerrant, MD, and
C. David Teates, MD, *Charlottesville, Virginia*

Using xenon-133 radiospirometry and formulae devised on geometric grounds, the authors predicted postoperative lung function in 12 patients who underwent lobectomy, wedge resection, or pneumonectomy for suspected carcinoma. No correlation was found, however, between preoperative, predicted, and postoperative lung function and immediate postoperative morbidity and mortality.

MANY patients requiring lung surgery for suspected lung carcinoma have reduced pulmonary function due to coexisting chronic bronchitis and emphysema. It is desirable to know how much additional reduction in pulmonary function will occur with the anticipated surgery. If the reduction in pulmonary function is excessive, an increase in postoperative morbidity and mortality and/or disabling chronic respiratory insufficiency may occur.

Conventional bronchospirometry has been used to predict postoperative lung function in patients undergoing pneumonectomy.[1] However, bronchospirometry has less patient acceptance and is not as rapidly and easily performed as xenon-133 radiospirometry. In addition, conventional bronchospirometry does not give detailed regional lung function data and, therefore, cannot be used to compute postoperative lung function after lobectomy.

Miorner has demonstrated a very close correlation between the results of conventional bronchospirometry and xenon-133 radiospirometry in normals and patients with lung disease.[2] Kristersson et al have shown a good correlation between predicted postoperative forced expiratory volume in one second (FEV_1) and forced vital capacity (FVC) and measured postoperative FEV_1 and FVC using xenon-133 radiospirometry in 19 patients undergoing pneumonectomy.[3] Most patients undergoing thoracotomy for suspected lung carcinoma have lobectomy performed rather than pneumonectomy as the latter removes more function. Several authors have indicated the

From the Department of Medicine (Dr. Guerrant) and the Department of Radiology (Dr. Teates), University of Virginia School of Medicine, where Dr. Cooper was a fellow in pulmonary diseases at the time this manuscript was written. He is now in private practice in Virginia Beach; address correspondence to him at 1100 First Colonial Road, Virginia Beach VA 23454.

Submitted 6-7-79.

shortcomings of using only conventional pulmonary function tests in predicting postoperative morbidity and mortality after lung resection.[3,4,7]

Consequently, there are two major objectives in the present study: 1. To use xenon-133 ventilation and perfusion studies to predict lung function following lobectomy and wedge resection as well as pneumonectomy; 2. To use predicted lung function data to predict postoperative pulmonary complications after wedge resection, lobectomy or pneumonectomy.

Prediction formulae were developed before surgery in the case of pneumonectomy and after surgery in the case of a lesser resection. Correlations were also made between regional lung function and tumor resectability and between regional lung function and postsurgical changes in arterial oxygen tension.

Materials and Methods

Eighteen patients from the thoracic-cardiovascular division of the Department of Surgery of the University of Virginia Hospital, Charlottesville, Virginia, were studied between July 1972 and June 1973. Patients were selected for the study if a thoracotomy for suspected lung cancer was planned and if they agreed to undergo preoperative and postoperative studies. Informed consent was obtained for the use of xenon-133 radioactive gas. Results of the preoperative lung scans were not made known to the surgeon.

All 18 patients were followed by one of the authors (WRC) in the immediate postoperative period, and their clinical course was graded as follows (modified after Boushy[4]):

1. Tolerated operation well.
2. Mild to moderate postoperative respiratory difficulties (i.e. pneumonia or atelectasis not requiring assisted ventilation or prolonged hospitalization greater than three weeks after surgery).
3. Severe postoperative respiratory difficulties (i.e. pulmonary complications requiring hospitalization greater than three weeks after surgery, requiring assisted ventilation, or respiratory failure postoperatively (defined as $PaO_2 < 50$ mm. Hg. or $PaCO_2 > 50$ mm. Hg.).
4. Died while still in the hospital of respiratory complications (i.e., respiratory failure or infection).

Preoperative forced vital capacity and forced expiratory volume in one second were measured using a Collins 9-liter respirometer. Predicted normals are from Kory et al.[5] Arterial oxygen tension (PaO_2), carbon dioxide tension ($PaCO_2$), and pH were measured with an Instrumentation Laboratory Model 113 pH/blood gas analyzer. These same studies were repeated 2-4 months after surgery in those patients who had resection of lung tissue and survived.

Preoperative xenon-133 ventilation and perfusion scans were performed in all patients using the technique described by Howard[6].

All scans were done in the recumbent position with the camera positioned posteriorly. Background counts after the ventilation study was completed were recorded and subtracted from the succeeding perfusion data. Polaroid photographs were made of the counts on an oscilloscope at 30-second intervals for the first 2 minutes of wash-in and wash-out, at the 5-minute equilibration, and for the perfusion study.

The counts from both ventilation and perfusion studies were recorded on a multi-channel analyzer and a computer was used to calculate the percent ventilation (V), the percent perfusion (Q), and ventilation-perfusion indices (V/Q) for each lung and for the upper, middle and lower thirds of each lung.

Calculations

The distribution of regional ventilation (as a percentage) was determined by dividing the number of counts in a given region by the total number of counts for both lungs. The distribution of regional perfusion was similarly calculated. No attempt was made to measure regional vital capacity. Ventilation-perfusion indices (V/Q) were calculated by dividing the percent ventilation of a region by the percent perfusion of the same region.

The predicted postoperative FEV_1 was calculated by multiplying the measured preoperative FEV_1 by the percentage of preoperative ventilation in the lung remaining after surgery. For a pneumonectomy the percentage ventilation of the unoperated lung was multiplied by the preoperative FEV_1.

After surgery was performed, the following formulae were developed to make predictions for lobectomy and wedge resection. For a right upper lobectomy: preoperative $FEV_1 \times (100 -$ percent ventilation in upper third of right lung) = postoperative FEV_1. For a right lower lobectomy: preoperative $FEV_1 \times (100 -$ percent ventilation in lower half of right lung) = postoperative FEV_1. For a left upper lobectomy: preoperative $FEV_1 \times (100 -$ percent ventilation in upper half of left lung) = postoperative FEV_1. For a left lower lobectomy: preoperative $FEV_1 \times (100 -$ percent ventilation in lower half of left lung) = postoperative FEV_1. For a wedge resection: preoperative $FEV_1 \times (100 -$ one half the

Table 1. Results of Pre- and Postoperative Lung Function Tests in Patients Who Had Lung Tissue Excised.

Group I (No pulmonary complications) Subject	Age	Sex	Type Resection	Postop. Score	Preoperative FEV_1	Preoperative FVC	Predicted Postop. FEV_1	Predicted Postop. FVC	Measured Postop. FEV_1	Measured Postop. FVC
1	69	M	LL lobectomy	1	3.1 (88)*	4.5 (96)	2.5	3.64	2.56	3.95
2	49	M	RU lobectomy	1	3.9 (91)	5.7 (100)	3.39	4.95	3.1	4.89
3	55	M	L pneumonectomy	1	1.9 (68)	2.18 (58)	1.77	2.03	1.7	2.05
4	54	M	L pneumonectomy	1	1.66 (48)	3.09 (69)	1.08	2.01	1.33	2.66
5	63	M	L wedge resection	1	1.5 (41)	2.86 (61)	1.4	2.66	1.5	3.47
6	56	F	L wedge resection	1	1.73 (68)	2.37 (78)	1.55	2.12	1.45	2.16
7	58	M	R wedge resection	1	2.72 (75)	4.9 (100)	2.62	4.75	2.88	4.56
$\bar{X}$	58				2.36	3.66	2.05	3.17	2.07	3.39
SD					.9	1.37	.76	1.28	.75	1.14
Group II (Pulmonary complications)										
8	73	M	LU lobectomy	4	3.0 (93)	4.3 (100)	2.24	3.35	—	—
9	73	F	RU lobectomy	2	1.45 (64)	1.9 (70)	1.33	1.78	1.08	1.58
10	52	M	R pneumonectomy	2	1.28 (38)	2.2 (49)	.67	1.14	.97	1.54
11	49	F	R wedge resection	3	1.07 (45)	1.98 (73)	.99	1.84	1.5	2.48
12	57	F	LU lobectomy	2	1.36 (53)	2.9 (96)	1.05	2.26	1.12	2.35
$\bar{X}$	61				1.63	2.66	1.33	2.07	1.17	1.99
SD					.78	1.00	.67	.82	.23	.5
P					> 0.1	> 0.1	> 0.1	> 0.1	> 0.1	> 0.1

* Figures in parentheses are % predicted normal values

percent ventilation in the involved third of the lung) = postoperative FEV_1.

The predicted postoperative forced vital capacity was similarly computed using the results from ventilation, even though regional vital capacity was not determined.

Results

Eighteen patients were studied. Twelve had lung tissue excised (Table 1). Six patients were found unresectable either by exploratory thoracotomy (4) or mediastinoscopy (2) and had no lung tissue removed (last six patients—Group B, Table 2). Three patients from Table 1 proved unresectable upon review of surgical specimens although lung tissue was excised (Subjects 10, 3, 7). All patients had carcinoma of the lung except Subjects 5 (granuloma), 6 (hamartoma) and 11 (cavitated pulmonary infarction).

The results of pulmonary function tests in patients having lung tissue removed are shown in Table 1. In Group I are seven patients who had no significant pulmonary complications. In Group II are five patients with postoperative pulmonary complications. Subject 8 died from pneumonia and congestive heart failure while on a ventilator. Subject 9 had fever and a significant amount of atelectasis. Subject 10 had fever, atelectasis, and empyema. Subject 11 had respiratory failure (PaO_2 on room air equaled 48 mm Hg after recovery from surgery). Subject 12 had fever and infiltrate on chest film.

Even though the mean values for preoperative, predicted and postoperative FEV_1 and FVC were all lower in Group II than in Group I, there was no statistically significant difference in the two groups.

Table 2. Preoperative Percent Ventilation (V) and a Perfusion (Q) of Cancerous Lung.

Group A (resectable) Subject	% V	% Q	Group B (Unresectable) Subject	% V	% Q
1	44.6	46.6	10	47.8	45.8
2	51.0	49.1	3	7.2	17.8
8	43.0	47.2	7	45.0	48.15
9	62.5	66.0	13	50.3	54.3
4	35.0	35.2	14	45.2	44.4
12	47.2	43.2	15	51.1	44.2
$\bar{X}$	47.2	47.88	16	42.2	45.7
SD	8.38	9.26	17	31.0	10.77
			18	47.9	47.04
			$\bar{X}$	40.86	39.8
			SD	13.16	14.03
			P	> 0.1	> 0.1

Figure 1 and Figure 2 show that the correlations between predicted postoperative FEV_1 and FVC and measured postoperative FEV_1 and FVC were quite close.

Table 2 gives the percent ventilation and percent perfusion of the cancerous lung in resectable and unresectable patients. The mean values for ventilation and perfusion were both lower in the unresectable lung, but the differences were not statistically significant when compared to the mean values for the resectable lung ($P > 0.1$).

Table 3 compares the V/Q index of the resected lung region with postoperative change in PaO_2. In Group A the postoperative PaO_2 rose and in Group B it fell. The mean V/Q index of the resected region is lower in those patients who had an increase in PaO_2 after surgery. The difference, however, is not statistically significant. It is of interest that the PaO_2 is more likely to rise after resection of a major portion of the lung. Not presented here but available

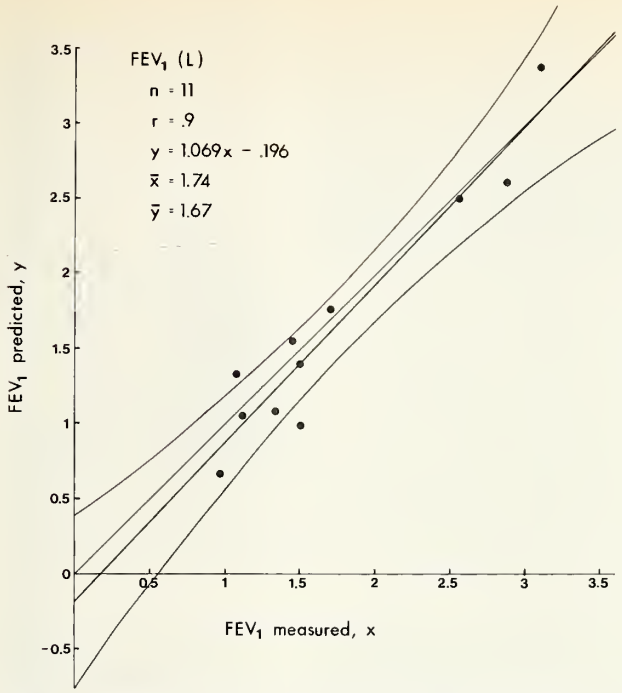


Fig. 1. Predicted FEV_1 (L), Y-axis, plotted against measured FEV_1 (L), X-axis, measured 2–4 months following surgery. Straight line is identity. Outer lines indicate 95% confidence intervals.

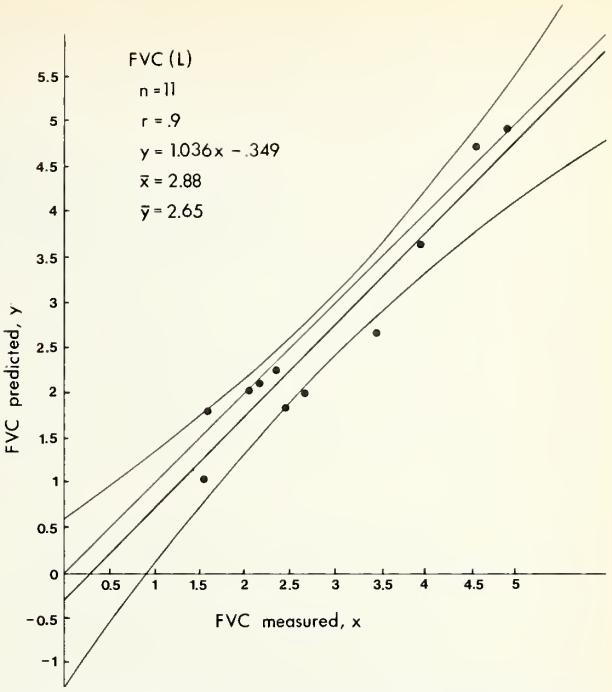


Fig. 2. Predicted FVC (L), Y-axis, plotted against measured FVC (L), X-axis, measured 2–4 months following surgery. Straight line is identity. Outer lines indicate 95% confidence intervals.

upon request in tabular form are the detailed results of ventilation, perfusion, and V/Q index for each third of each lung of the 18 patients studied.

Discussion

The first objective of this study has been achieved in a small number of patients. Xenon-133 radiospirometry studies do provide information that is useful in predicting postoperative lung function even in patients undergoing lesser resections than pneumonectomy. The formulae were devised on geometric grounds and should be tested by application to a larger group of patients. In general, pneumonectomy is performed less often in patients with limited lung function who have suspected lung cancer, probably because of the greater risk involved. Consequently, it is desirable to know how much lung function would be expected to remain after lobectomy or even wedge resection in order to avoid producing severe chronic respiratory insufficiency.

Recently Olsen et al have reported that a predicted

Table 3. Postoperative Change in PaO_2 Compared with V/Q Index of Resected Region.

Subject	Preop PaO_2 (mm Hg)	Postop PaO_2 (mm Hg)	Difference (mm Hg)	V/Q Index Resected Region	Type Resection
		A. Arterial Oxygen Tension Increased Postoperatively			
1	65	76	+11	.66	LL lobectomy
10	72	80	+8	1.04	R pneumonectomy
3	65	70	+5	.4	L pneumonectomy
4	54	71	+17	.98 (LLL = .67)	L pneumonectomy
12	57	70	+13	1.06	LU lobectomy
5	69	72.3	+3.3	+1.25	L wedge
$\bar{X}$	63.7	73.2	+9.6	.90	
SD	7.2	4.5	+4.6	.26	
		B. Arterial Oxygen Tension Decreased Postoperatively			
2	84.3	80.0	−4.3	1.6	RU lobectomy
9	79.5	73	−6.5	1.07	RU lobectomy
6	78	72	−6.0	.98	L wedge
11	52	48	−4.0	.99	R wedge
$\bar{X}$	73.5	68.3	−5.2	1.16	
SD	12.8	12.2	3.95	0.23	
P				$> .05$	

postoperative FEV_1 of greater than 800 cc is found useful in choosing pneumonectomy candidates.[7,8] A similar prospective study could be done with potential lobectomy patients. Olsen's group uses a quantitative differential perfusion scan to estimate split function rather than a xenon ventilation scan. In the community hospital where perfusion scanning equipment is invariably already present, our proposed geometric formulae could be used to predict postoperative function in lobectomy patients. Several such cases have been done by one of the authors (WRC) at a community hospital, with good results thus far. More extensive investigation is, of course, needed before such studies can be regarded with great validity.

The second objective of the study has not been achieved. Neither the degree of impairment of pulmonary function as shown by the preoperative ventilatory studies nor the prediction of postoperative function by xenon-133 radiospirometry indicates which patients will develop significant acute pulmonary complications after lung surgery. These results concur with those of other investigators[3,4] that, in any one individual patient, preoperative pulmonary function tests are unable to predict whether that patient will have acute pulmonary complications following lung resection. We had hoped that by using predicted postoperative function we could improve the predictions. Multiple factors are involved in the development of postoperative pulmonary complications, however, some of which are not necessarily related to the degree of lung function, such as age, pneumonia due to gram negative organisms, cardiovascular status, etc. In this study, unfortunately, no hemodynamic measurements were attempted.

The more important aspect of split function studies is to predict which patients will have disabling ventilatory functions should they survive the acute surgical period. In clinical practice one sees considerable disability if the FEV_1 is less than .8 to 1.0 liters, and the incidence of hypercarbia is known to increase when the FEV_1 falls below .75 liters. Thus both Olsen[7] and Kristersson[3] use a predicted FEV_1 of .8 and 1.0 liters respectively as the cutoff point to accept or reject patients for lung resection. In the present study, no patient had a measured postoperative FEV_1 of less than .8 L and none had severe chronic respiratory insufficiency in followup 2-6 months later.

The other correlations with tumor resectability and postoperative PaO_2 changes in this study were not statistically significant. It seems that, when values for ventilation and perfusion are lower in the cancerous lung, the lesion is more likely not to be resectable. The strategic location, however, of a relatively small tumor may make a patient unresectable without markedly affecting the perfusion or ventilation of the involved lung. This occurred in two of our patients with rib or mediastinal involvement (Subjects 7, 18). Bone scans, rib roentgenograms, and mediastinoscopy were more useful in determining resectability in such cases. Swanberg[9] and James et al[10] have used xenon-133 radiospirometry in a much larger group of patients and have found it valuable in predicting operability and 5-year survival. Kristersson found, as we did, no significant correlation between regional function of the cancerous lung and survival.[3]

A low V/Q index in the involved portion of the lung indicates greater perfusion of that area than ventilation and suggests that the PaO_2 will rise after resection of that area. This is more likely to be true if much lung tissue, as in pneumonectomy, is removed, but the differences are small and of limited clinical value.

All of the conclusions in this report must be tentative because of the small number of patients studied.

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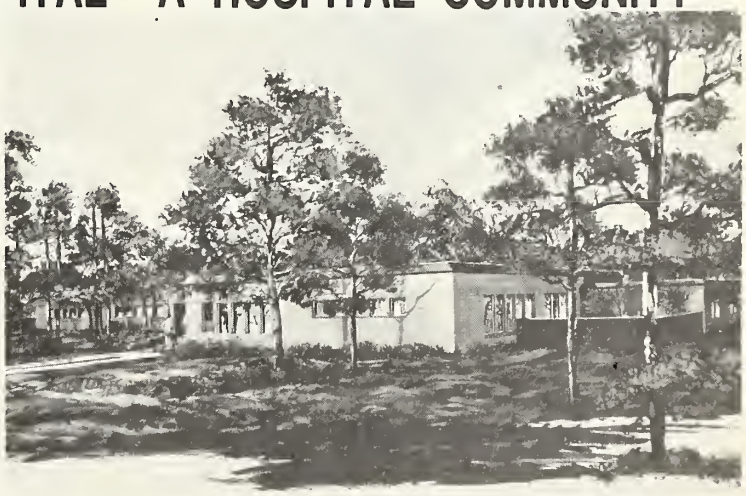
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Grand Rounds: Sexually Transmitted Diseases

From the Division of Infectious Diseases,
Medical College of Virginia/Virginia Commonwealth University.
Discussed by Marvin J. Tenenbaum, MD.

ALMOST all physicians involved in patient care will see patients with urethritis and therefore, by assumption, will see patients with all types of sexually transmitted diseases. This premise was amply demonstrated by a recent epidemiological survey, which included physicians in all the medical and surgical subspecialties, even neurosurgeons.

This same survey showed that only 30% of patients with urethritis were seen in veneral disease clinics or special health department facilities. Additionally, this study and others have revealed that only about 20% of private practitioners report their veneral disease cases, while all of the patients seen in specialized clinics are reported, so that it can be estimated that greater than 80% of patients with sexually transmitted diseases are actually seen by private practitioners.

It should also be noted that venereologists feel that most medical school curricula and housestaff training programs fail to cover adequately the scope and spectrum of sexually transmitted diseases (Table 1). The consequence of this shortcoming is that the private practitioners, who most frequently see these patients, are often unaware of the clinical presentations of these diseases, don't recognize their potential complications, or don't know how to treat them properly.

This presentation will discuss four common sexually transmitted diseases and the exploding amount of new information that has been generated recently around them.

Table 1. The Sexually Transmitted Diseases.

1. Gonorrhea	11. Scabies
2. Non-gonococcal urethritis	12. Pediculosis
3. Syphilis	13. Molluscum contagiosum
4. Genital herpes infection	14. Lymphogranuloma venereum (LGV)
5. *Trichomonas* vaginitis	15. Chancroid
6. Monilial vaginitis	16. Granuloma inguinale
7. Nonspecific vaginitis	17. Hepatitis B
8. Genital warts	18. Giardiasis
9. Cytomegalovirus (CMV)	19. Amebiasis
10. Group B streptococci	20. Shigellosis

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Gonococcal/Non-Gonococcal Urethritis

It is estimated that there were 4 million cases of gonorrhea in this country last year. Non-gonococcal urethritis (NGU) is not a reportable diesase in the United States, but in Great Britain, where it is, it accounts for two-thirds of male patients seen with urethritis. In a study done in Seattle, Washington, non-gonococcal urethritis was the diagnosis in two-thirds of male patients with urethritis, and in from 60-85% of all patients seen with urethritis, the infection had a non-gonococcal etiology. To extrapolate from these percentages, 8-15 million cases of non-gonococcal urethritis may be seen annually in the United States.

It has long been known that gonorrhea is secondary to infection with *Neisseria gonorrhoeae,* and in the last five to ten years, the search for the causative organism(s) of non-gonococcal urethritis has been very productive. In an initial report, *Chlamydia trachomatis* was cultured from the anterior urethra of 42% of men with non-gonococcal urethritis, compared with its isolation from only 7% of men with no urethritis. This significantly positive correlation has been supported and reinforced by several subsequent studies. *C trachomatis* is also implicated by its high rate of isolation from the endocervixes of sexual partners of men with chlamydial NGU, and also by the dramatic relief of these men's symptoms correlating with chlamydial elimination from the anterior urethra. All authorities now agree, indeed, that *C trachomatis* is a cause of non-gonococcal urethritis; but all these studies continue to show that at best it accounts for only 40-50% of patients seen with NGU.

It is notable that these studies consistently show a 20-30% concomitant infection rate of *N gonorrhoeae* and *C trachomatis.* Interestingly, these percentages correlate closely with the incidence of post-gonococcal urethritis (PGU) seen in men treated with penicillin or ampicillin, which are effective against *N gonorrhoeae* but ineffective against *C trachomatis.* Thus it is felt that *C trachomatis* is also a major organism responsible for post-gonococcal urethritis.

The search for the agent(s) responsible for the other 50-60% of patients with non-chlamydial NGU has led us back to consideration of the *Mycoplasma* organisms, *Ureaplasma urealyticum*, formerly called "T-*Mycoplasma*". In initial studies showing that this organism had no etiological role in NGU, there was a failure to control for sexual activity. For unexplained reasons, the more sexually active a man, the more likely he is to harbor *Ureaplasma* asymptomatically in his anterior urethra. Thus, in a study in which the patients to be tested were limited to those men with five or less sexual exposures, *Ureaplasma* could be isolated from 92% of the anterior urethras of patients with non-chlamydial NGU, whereas it could be isolated from only 23% of relatively sexually inactive men without urethritis. Also, studies using antimicrobial agents which are ineffective against *Ureaplasma* have shown that those men with NGU who remain continually culture positive for *Ureaplasma* will continue to be symptomatic. Other studies have shown that these men will become asymptomatic when effective agents eradicate *Ureaplasma* from the anterior urethra. Thus, most authorities feel that *U urealyticum* causes non-gonococcal urethritis; the only skepticism relates to why so many sexually active men harbor this organism asymptomatically. The search for other etiologic causes of non-gonococcal urethritis continues.

Table 2. Distinguishing Characteristics of Gonococcal and Non-Gonococcal Urethritis

Characteristic	G.C	NGU
1. Color of patient	Black	White
2. Socioeconomic status	Blue collar	College educated-white collar
3. Incubation	1–5 days	3–14 days
4. Symptoms	Dysuria + discharge	Dysuria and/or discharge
5. Discharge	Purulent + spontaneous	Scant & mucoid
6. Duration of symptoms	Short	Longer
7. Past history	+ G.C	+ NGU
8. Gram stain	Polys + intracellular GND	Mixed WBCs and paucity of GND

How to differentiate between non-gonococcal and gonococcal urethritis? Table 2 summarizes the characteristics that have been looked at in various studies. In two studies, *N gonorrhoeae* accounted from 60-70% of urethritis seen in black patients, while non-gonococcal urethritis accounted for 70% of urethritis seen in Caucasian patients. A recent cohort study showed that if both a black and a white man were exposed to the same woman who had documented gonorrhea, the black man had a threefold increased risk of contracting gonorrhea than the white man. It may be that the racial difference in gonococcal and non-gonococcal urethritis relates more to host factors than to socioeconomic factors, although it should be noted that in both college and medical school health offices, non-gonococcal urethritis is seen ten times more frequently than is gonococcal urethritis.

Although there is some overlap, in general the more acute the onset of symptoms, the more likely the patient is to have gonococcal urethritis. Symptoms and discharge can be helpful in differentiating.

The gonococcal drip is a spontaneous, purulent discharge, and these patients tend also to have significant dysuria. By comparison, men with non-gonococcal urethritis tend to have either mild dysuria or a scant, mucoid urethral discharge. In one study, men with gonococcal urethritis had a twofold greater likelihood of having both dysuria and discharge than men with non-gonococcal urethritis. Duration of symptoms obviously correlates with their severity, and the patient's past history is suggestive at best.

The best way of distinguishing gonococcal from non-gonococcal urethritis is by Gram stain evaluation of the patient's urethral discharge.

When you see polymorphonuclear white cells (polys) with many intracellular gram negative diplococci (GND), there is greater than 98% correlation that this patient will have a positive urethral culture for *N gonorrhoeae.* Conversely, when the Gram stain shows polys and mononuclear cells and the absence of either intra- or extra-cellular GND, there is greater than 98% correlation that this patient will have a negative urethral culture for *N gonorrhoeae.* The one area of confusion with the diagnostic ability of the urethral discharge Gram stain is when no intracellular organisms are seen but extracellular GND are present. Although this Gram stain is atypical for gonococcal urethritis, approximately 20% of these men will have positive urethral cultures. Therefore, across the board, the Gram stain has an 85% prediction rate. In the classic examples, however, the Gram stain is felt to be accurate enough to be used as the sole method for diagnosis.

Most institutions do not have the capability of culturing for *C trachomatis* or *U urealyticum*, nor access to serological tests helpful in confirming acute chlamydial infection, so the diagnosis of non-gonococcal urethritis is essentially made by ruling out the presence of gonococcal urethritis. The means of diagnosing gonorrhea are basically dependent on the patient. In the symptomatic man, as discussed above, the Gram stain may be the only needed diagnostic method. In the asymptomatic man, culture of his anterior urethra is essential. It should be emphasized that, contrary to the common belief that all men with gonorrhea are symptomatic, cohort studies show that up to 40% of male partners of women with confirmed gonorrhea are asymptomatically infected. In women, because of the presence in their normal vaginal flora of organisms which appear similar to *N gonorrhoeae* on Gram stain, this diagnostic method should be used only by those experienced in interpreting endocervical smears. Thus, most of us have to rely on the results of a culture of a deep endocervical specimen to diagnose gonorrhea in our female patients. It is appropriate to reiterate that due to the fastidious growth requirements of *N gonorrhoeae,* the culture medium and technique used can greatly affect cultural yield. In fact, some studies have shown as high as a 20% false negative culture rate; this emphasizes that at times the diagnosis of gonorrhea must be made solely on clinical grounds.

Once you have made these diagnoses, you must be aware of the complications seen with localized, anogenital gonorrhea and non-gonococcal urethritis. Menstruation, pregnancy, the presence of an intrauterine device, previous pelvic infection or surgery, and deficiencies of the late complement components are factors favoring spread of endocervical gonorrhea. Most of these seem to have in common the fact that they violate the integrity of the endocervical mucosa, which may explain why disseminated gonococcal infection is seen much more often in women than in men. No such studies have been done investigating factors that favor chlamydial dissemination.

It is estimated that 9-20% of women with localized gonorrhea will develop pelvic inflammatory disease (PID). Recent studies show that PID is frequently non-gonococcal in origin; therefore, if your patient's endocervical culture for *N gonorrhoeae* is negative, she likely does not have gonococcal PID. Systemic dissemination of *N gonorrhoeae* occurs in 1-3% of patients, predominantly women, and the most common manifestation of this is the arthritis-dermatitis syndrome. This syndrome is separated, classically but perhaps not realistically, into two distinct stages. The early stage is characterized by skin lesions, positive blood cultures in approximately 50% of the patients, and negative joint fluid cultures. A recent paper suggested that joint involvement, in this stage, is secondary to circulating immune complexes. The later stage of this syndrome is manifested by the absence of skin lesions, negative blood cultures and a septic arthritis, with 50% of the synovial fluid cultures being positive for *N gonorrhoeae*—particularly those fluids with greater than 80,000/mm^3. The skin lesions of gonococcemia can be petechial, papular, pustular, or classically reveal a necrotic pustule or bullae on a hemorrhagic or erythematous base. The lesions are usually few in number and are often in close proximity to an involved joint. Aspiration of the skin lesion may give a positive culture for *N gonorrhoeae* in approximately 50% of cases but gram stain evaluation of this aspirate is a low yield procedure. Immunofluorescent staining of biopsies of these lesions is often diagnostically helpful. Endocarditis and meningitis are still appreciated complications of gonorrhea, and there was a recent report of three cases of gonococcal endocarditis from the University of

South Carolina. Perihepatitis, or the Fitz Hugh Curtis syndrome, was once thought to occur in 1% of women with pelvic inflammatory disease, but a recent study suggests that perihepatitis occurs in more than 25% of women with PID regardless of its origin.

As recently as three years ago, very few complications of chlamydial NGU were appreciated except for endemic trachoma and inclusion conjunctivitis, but several other complications of localized, urethral *C trachomatis* infection are now recognized. A distinct neonatal pneumonitis is now the third chlamydial disease of newborns felt to be contracted by passage through an infected birth canal. In regard to women, besides causing cervicitis, *C trachomatis* has been isolated from fallopian tubal aspirations and is thought to account for a significant number of women with non-gonococcal PID. A recent study showed that, by using laparoscopic culture and serological methods, *C trachomatis* has been isolated from women with perihepatitis. A University of Cincinnati study using electronmicroscopy and serology showed that this organism can also cause endocarditis. Lastly, a recent article, using epididymal and anterior urethral cultures, showed that *C trachomatis* is the most common cause of acute idiopathic epididymitis in young (less than 35 years), sexually active men, and that epididymitis in this age group, was just another manifestation of a sexually transmitted disease.

In regard to treatment of non-gonococcal urethritis, in vitro antibiotic sensitivity studies have shown that nearly all strains of *C trachomatis* and about 70% of *U urealyticum* strains tested are sensitive to tetracycline, but neither organism is sensitive to penicillin. Therefore, tetracycline 500 mgm po qid is the recommended treatment of choice for NGU, with erythromycin, at the same dosage, being an effective alternative. The ideal duration of treatment is controversial; although seven days is currently recommended, some patients may require 21-28 days of continuous treatment for successful eradication of their infection. There is also some data showing that in a patient with tetracycline-resistant *Ureaplasma* NGU, spectinomycin may be effective treatment. Lastly, because of the risk of complications, the sexual partners of these patients with non-gonococcal urethritis should always be treated.

Table 3. Treatment for Anogenital Gonorrhea.

Regimen	Efficacy
1. Procaine Pen 4.8 megaunits IM plus 1 grm Probenicid p.o.	97%
2. Tetracycline 500 mgm p.o. qid × 5 days	96%
3. Spectinomycin 2 grms I.M.	95%
4. Ampicillin 3.5 grms p.o. plus 1 grm Probenicid p.o.	93%

Table 3 lists the four current treatment regimens recommended by the Center for Disease Control for anogenital gonorrhea; the efficacies were determined by a nationwide, cooperative gonorrhea treatment protocol study. Procaine penicillin remains the standard by which all other regimens must be compared. However, many authorities prefer tetracycline as their treatment of choice in reliable patients. Tetracycline is as effective against *N gonorrhoeae* as is procaine penicillin and obviously not as painful. It is felt to be effective also in eradicating incubating syphilis. And tetracycline has the advantage of essentially eliminating the significant problem of PGU in men with concomitant *C trachomatis* infection. Of note is the fact that the previously recommended loading dose of tetracycline was eliminated when studies showed it increased the incidence of nausea and vomiting without improving the effectiveness of treatment.

There are currently five indications for the use of spectinomycin for gonococcal infection. First, spectinomycin is used in patients who have failed on recommended regimens. Second, in late 1975 penicillinase producing strains of *N gonorrhoeae* (PPNG) which were also relatively resistant to tetracycline were isolated; these strains have been recognized in 31 states to date, and are only rarely resistant to spectinomycin. Third, the prevalence of these PPNG strains is so significant in southeast Asia and the Philippines that if your patient contracted his gonococcal infection in these areas, he should be initially treated with spectinomycin. Fourth, spectinomycin is the recommended alternative treatment of gonorrhea in the pregnant patient who is allergic to penicillin. Finally, one recent paper reported the universal efficacy of 4 grams of spectinomycin in eradicating gonococcal proctitis in homosexual men; this infection had otherwise not responded well to the recommended treatment schedules.

Not only because of the possibility that your patient may be infected with a PPNG strain but because the above data show that even the most effective regimens carry with them a 3-4% failure rate, an essential part of the treatment protocol of anogenital gonorrhea is to obtain a post-treatment, test-of-cure culture. I cannot emphasize this point enough. These cultures should be obtained 7-14 days after completion of therapy and you must tell your patients to refrain from sexual activity until eradication of their infection is documented. Clearly, all sexual contacts of patients with documented gonorrhea must be examined and appropriately treated.

Gonococcal pharyngitis does not respond to either the spectinomycin or ampicillin regimens used in anogenital gonorrhea but can be eradicated by both the procaine penicillin and tetracycline courses. This infection thus brings up an essential point when you are caring for any patient with a sexually transmitted disease: You must obtain a complete history of the patient's sexual habits and activities, for this will direct your diagnostic and therapeutic decisions. Accordingly, in patients who admit to oral sex, throat cultures are recommended to rule out gonococcal pharyngitis. With the recognition of chlamydial and anaerobic bacterial causes of pelvic inflammatory disease most authorities would now use a 10-day course of tetracycline as the treatment of choice in non-hospitalized women with PID, due to tetracycline's efficacy against both of these organisms and *N gonorrhoeae* as well. In 1973, antibiotic sensitivity studies showed that the strains of *N gonorrhoeae* that disseminated were also the most antibiotic-sensitive strains. Immediately thereafter, regimens using short courses of parenteral antibiotics or solely oral antibiotics were shown to be effective treatment for the gonococcal arthiritis-dermatitis syndrome. Indeed, the only current indications for high-dose, long-term, parenteral penicillin treatment in gonococcal disease are with the complications of endocarditis and meningitis.

As to prevention, there are numerous studies showing that condom usage greatly decreases the incidence of gonococcal and non-gonococcal urethritis. This information must be relayed to your patients.

Syphilis

There were 78,000 reported cases of syphilis in this country in 1976, but due to poor physician reporting this figure probably is a gross underestimate of the actual incidence of the disease.

Of the six stages of syphilis, the first, or incubating, stage occurs within hours of exposure and lasts until the primary lesion appears. The primary stage is manifested by the classical chancre, a painless ulcer with heaped up firm edges which occurs at the site of initial exposure. The chancre usually appears within 30 days of exposure and can last from one to five weeks. The classical manifestations of secondary syphilis are listed, but when there is bone, eye, kidney or liver involvement, this stage can truly mimic numerous other diseases. The secondary lesions are usually seen 6 or more weeks after exposure. The maculopapular lesions on the palms and sores are the most typical lesions of secondary syphilis, but we are constantly reminded that luetic skin lesions can imitate any dermatological condition and can have any distribution. Secondary lesions last from 2-6 weeks, and it is possible to see a patient who has both primary and secondary lesions concomitantly. The clinical importance of the early latent stage of syphilis relates to the 25% of untreated patients who will develop cutaneous relapse and thus again become infectious. The early stages of syphilis manifested by these infectious mucocutaneous lesions are the communicable stages of the disease and also the stages in which the most definitive method for diagnosis can be employed. This is the darkfield examination of a scraping from the base of these lesions, which should reveal the typical spirochetal form of *Treponema pallidum*. A word of caution: Do not do darkfield examination of oral lesions, as there are non-pathogenic *Treponema* that are part of the normal oral flora and these will be confused for *T pallidum*.

It is estimated that a third of all untreated syphilitic patients will develop tertiary lesions. The benign form refers to the presence of gummatous lesions, which involve primarily the musculoskeletal system but can involve literally any organ in the body. Neurosyphilis includes the spectrum of asymptomatic involvement through meningovascular lues to tabes dorsalis. The cardiovascular lesion is primarily of the elastic tissue of the ascending aorta; it is this involvement that accounts for the mortality seen with this infection.

These later stages of syphilis, which lack mucocutaneous lesions are therefore no longer infectious stages of the disease, cannot be diagnosed by the darkfield method. We must rely instead on serological and/or pathological studies for diagnosis.

The non-*Treponema* tests, of which the VDRL is now the prototype, are studies looking for reagin-type antibodies directed at a non-*Treponema* product, cardiolipin. This test can thus be positive in many conditions. The *Treponema* tests, of which the FTA-ABS is the prototype, are studies which detect antibodies directed at *T pallidum* and its products and are rather specific for syphilis.

Since it takes 6 weeks for the VDRL to become positive, this test is often not diagnostically helpful in primary syphilis. The VDRL is essentially always positive in secondary and early latent syphilis with positive results frequently persisting with titration of the patient's serum. These titers are most helpful as they can be followed, serially, to determine the efficacy of treatment in these patients. The sensitivity of non-*Treponema* tests decreases significantly in the later stages of syphilis. Fortunately, the FTA-ABS is positive in 97% of patients with these later stages of infection and is actually as sensitive or more sensitive

than the VDRL in all stages of the disease. The current recommendation of the Center for Disease Control is that the VDRL be done only on cerebrospinal fluid for diagnosis of neurosyphilis. It is felt that the cerebrospinal fluid FTA-ABS has not been standardized sufficiently to make the results reliable.

It is essential that we recognize conditions other than syphilis which may also cause these tests to be positive. The VDRL is often positive with connective tissue disorders, mainly systemic lupus erythematosis (SLE), intravenous drug abuse, pregnancy, post-immunization, leprosy, subacute bacterial endocarditis, obesity and in elderly patients. It is thought that only 1-3% of positive FTA-ABS are false biological results; this is likely to occur with SLE and other connective tissue diseases, pregnancy, obesity, parenteral drug abuse and elderly people. Therefore, the Center for Disease Control requires two consecutively positive non-*Treponema* tests and one positive *Treponema* test to make the diagnosis of syphilis solely on serological results.

T pallidum remains very sensitive to small quantities of penicillin, and the goal of syphilis therapy is to obtain effective, low-serum levels of penicillin for a long duration. This explains why benzathine penicillin is the treatment of choice. In a simplistic approach, 2.4 megaunits of benzathine penicillin IM is the recommended treatment for syphilis through the early latent stage. For later stages of the infection, 2.4 megaunits of benzathine penicillin IM once weekly for 3 weeks is used. Oral tetracycline or erythromycin are the recommended alternatives in the penicillin-allergic patient, with total doses of 30 grams in early disease and 60 grams in late disease being the prescribed schedules. There is no data to show that treatment favorably affects either cardiovascular or advanced central nervous system disease. There are recent studies reporting that the benzathine penicillin regimen may not be effective treatment for neurosyphilis, and some experts now recommend the use of high-dose, intravenous aqueous penicillin for this infection. A word of caution about an untoward effect of syphilis treatment, particularly in the early stages of the disease: the Jarisch-Herxheimer reaction. It is usually seen within 2-24 hours of treatment and is manifested by fever, tachycardia, myalgias and, at times, significant hypotension. It is usually self-limited with a duration of from 8-24 hours. Its etiology is not known but is thought to be a reaction to *Treponema* substances suddenly introduced into the systemic circulation. Regardless of etiology, this reaction is frequently seen and in secondary syphilis is the rule as opposed to the exception.

And in regard to the response of the VDRL to appropriate treatment in the different stages of syphilis: The FTA-ABS and other *Treponema* tests generally remain serofast regardless of the stage of disease at the time of treatment. However, as you can see, the VDRL will seroconvert with treatment of the incubating, primary, secondary and early latent stages of disease. In those patients who do not become seronegative, they must demonstrate at least a fourfold decrease in their VDRL titer to prove that they were successfully treated. When the titer does not decrease, you must assume that the initial therapy was ineffective and retreatment is necessary. If the VDRL remains serofast in the latent stages of syphilis, you must document that these patients received an appropriate regimen or retreat them accordingly.

Genital Herpes

Genital herpes is being recognized with increasing frequency in this country; in some areas, such as southern California, it is the most commonly diagnosed sexually transmitted disease, but since in this country it is a non-reportable disease, its true incidence is unknown.

The diagnosis of genital herpes is best made by aspirating the classic vesicular lesion and culturing the fluid for the causative organism, herpes simplex virus (HSV), Types 1 or 2. If this can't be done, a Tzank prep is recommended. This procedure consists of scraping the base of the lesion and, with Giemsa staining, looking for typical multinucleated giant cells and intranuclear inclusions, which are present in over 70% of early lesions.

Genital herpes infections were classically thought to be caused by Type 2 herpes simplex virus. Many recent reports show that, depending on their sexual habits, as many as 50% of patients will have disease caused by Type 1 herpes simplex virus.

The incubation period of this infection is from 5-7 days, with a range of 1-14 days. The disease progresses from an initial small papule into the classical vesicle then to vesicopustules. Within 3-5 days, these vesicopustular lesions break down to painful cervical or penile ulcers, which will eventually heal without scarring. In some unfortunate male patients, herpetic urethritis, a most painful condition, may occur simultaneously with these lesions. Bilateral inguinal adenopathy is felt to be universal with genital herpes infection. Some patients will have myalgias, fever and headache; these are felt to correlate with a transient viremic stage. Approximately 2% of patients with primary infection will develop aseptic meningitis. The infectious period correlates closely with the period of active virus shedding: 14 days in

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women, 9 days in men. The primary infection lasts from 15-25 days.

Despite the presence of high levels of circulating neutralizing antibodies, 60% of patients will develop recurrent genital lesions within 6 months of their primary infection. Those patients that do develop recurrences usually will have four recurrences during the first year after the primary episode. The exact stimuli for these recurrences are not known, although menses, local trauma and emotional factors are thought to play a role. Recurrences can be manifested by a prodromal period of paresthesia in the area in which the lesions will subsequently develop. Recent studies show that high levels of circulating antibodies will favorably alter recurrent episodes by decreasing symptoms, infectious period and duration of the recurrences, but they do not prevent recurrences.

The complications of genital herpes infection include, in women, a fivefold increase in the incidence of cervical cancer. Also, in a term patient with a primary genital herpes infection, there is a 50% chance that her vaginally delivered newborn will develop disseminated herpes infection. Neonatal disseminated herpes has an approximately 50% mortality, and genital herpes infection, at term, is an indication for cesarean section delivery. Lastly, in immunosuppressed patients, disseminated herpes infection and meningitis can be life-threatening complications.

The most distressing and frustrating aspect of genital herpes infection is that, despite its significant morbidity and mortality, there is, to date, no effective therapy. Avoidance is the best approach to this disease.

DR. RICHARD J. DUMA: What about urine cultures for the diagnosis of gonococcal urethritis?

DR. TENENBAUM: There is a recent report showing that culture of an uncentrifuged, first-voided urine specimen for *N gonorrhoeae* had comparable sensitivity to the gram stain of urethral discharge and of anterior urethral cultures. It is helpful, but the latter two methods are preferred.

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The author thanks Dr. Sheldon Markowitz for his review of the manuscript.

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Diagnosis, Not Energy Or Weight, Determines Ventricular Defibrillation

Michael L. Cherwek, MD, James N. Sipes, MD, Joseph A. Gascho, MD, Frank P. Hunter, BEE, William M. O'Brien, MD, and Richard S. Crampton, MD, *Charlottesville, Virginia*

In a study demonstrating 95% success in achieving defibrillation in 94 resuscitative events in adult patients, the authors find that weight did not determine that success and that the results were obtained at significantly low rates of energy output. Diagnosis was the key, they conclude, and they view the expensive high-energy defibrillators marketed today as unnecessary, potentially lethal, and economically wasteful.

TREATMENT of the victim of cardiac arrest due to ventricular fibrillation (VF) poses the problem of achieving the most rapid, yet highest quality, resuscitation culminating in defibrillation. Several bioengineers and physicians have asserted that ventricular defibrillation relates inversely to weight, and that 33% of people over 50 kg and 50% over 80 kg cannot be defibrillated by the conventional devices now in clinical use for nearly two decades.[1,2] These conventional defibrillators now store no more than 400 joules (j) and deliver up to 360 j. On the basis of a single retrospective survey of man[1] and several studies of heavyweight animals,[3-5] the proponents of higher energy levels to defibrillate have urged manufacture and use of kilo and "megawatt" devices to deliver 6.4 j/kg shocks, especially to heavyweight patients.[1,2,6] Although the need for such high energy levels to defibrillate man has never been shown, ten of 14 (71%) American manufacturers now sell potentially harmful high output defibrillators.[7] In contrast, prospectively accumulated data indicate that shocks delivering 74-250 j defibrillated the ventricles of adult humans in more than 95% of episodes of VF, including people who weighed over 100 kg.[8-11]

Since the issue of the energy need to defibrillate the ventricles in the closed adult human chest is an important one,[8-15] we conducted a 2-year prospective survey of ventricular fibrillation. We confirmed that 95% of all VF defibrillated. Furthermore, we found that 99% of viable patients, that is, adults who weighed up to 225 kg without agonal VF from a

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Presented in preliminary form at the Annual Meeting of The Medical Society of Virginia in Williamsburg, November 5, 1976, and before the Virginia Chapter of the American College of Physicians in Alexandria, February 12, 1977.

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hopeless terminal illness, defibrillated easily and at the low mean level of delivered energy of 196 ± 5.4 j (2.7 j/kg).

Methods

Twenty-six standard devices from three manufacturers were used: Physio-Control Series 70 and Lifepaks 33, 2 and 4; Hewlett Packard 7802B and D and 780-02A; Cardiac Recorders IPCO-Pantridge 280. The two former sets of devices provided 5 msec damped sine wave pulses and the latter 12 msec. Three of the 414 direct current countershocks given were from a Zenith-Travenol Monopulse with an 8 msec pulse wave. Each device was discharged at least three times through a 50 ohm load (Dempsey tester) at each of five metered stored levels of energy of 50, 100, 200, 300, and 400 j. All metered delivered energy levels in joules were recorded and subsequently related to the weight (kg) of the patient receiving direct current (DC) countershock for ventricular fibrillation and expressed as joules and joules per kg.[1] Electrode size varied from 50 to 62 cm.[2] Electrode paste or saline soaked pads were usually employed. The electrodes were placed to the right of the upper sternal edge and over the cardiac apex.

We prospectively assessed 94 resuscitative events in 88 patients in the prehospital, emergency department and critical care components of our emergency medical services system (EMSS). The cardiac emergency medical technicians, nurses and physicians discharged at their discretion less than full device output in 414 DC shocks in 253 episodes of ventricular fibrillation. When two episodes of ventricular fibrillation over 6 hours apart occurred in the same patient, these episodes constituted, for analytic purposes, separate events in separate individuals. Thus three patients appear twice and one appears four times for VF episodes 9 hours to 5 weeks apart.

The clinical diagnosis, the setting in which VF episodes occurred, age and weight of each individual were noted. Four categories were defined as 1) acute myocardial infarction (AMI) and primary ventricular fibrillation; 2) acute myocardial infarction and secondary ventricular fibrillation; 3) coronary disease (CD) without acute myocardial infarction with either primary or secondary ventricular fibrillation; and 4) all other clinical conditions. Agonal ventricular fibrillation was defined as ventricular fibrillation in persons dying of terminal cancer or leukemia, cardiogenic shock, and such other catastrophic situations as terminal uremia or pulmonary failure. All other ventricular fibrillation was considered non-agonal. The outcome of each shock and each resuscitative event was recorded. If ventricular fibrillation converted to another rhythm, the direct current shock was considered successful.[1,8-10] All patients received standard basic and advanced life support.[16]

All data are presented as the mean plus or minus the standard error (SE) of the mean. The analytic technics were the unpaired student's t test, Fisher's exact test, chi square test, analysis of variance, discriminant function, and linear and multiple regression.

Results

Table 1 indicates that 240 of 253 (95%) VF episodes defibrillated. The successful direct current shocks delivered a mean 196 ± 5.4 j, and 190 (75%) defibrillated by the first shock. The successful first shocks delivered 180 ± 5 j, which was significantly less energy ($p < .05$) than those first shocks which failed to defibrillate, 204 ± 12 j. The defibrillation rate did not decline as weight increased (Table 2).

Acute myocardial infarction and primary ventricular fibrillation, coronary disease without acute myocardial infarction, and non-agonal ventricular fibrillation defibrillated more easily (Table 1). Patients with acute myocardial infarction and secondary ventricular fibrillation, patients without coronary disease, and patients with agonal ventricular fibrillation had a significantly lower defibrillation rate ($p < .05$).

In 12 patients who weighed 106 ± 11 kg (range 91 to 225 kg), 45 of 46 (98%) VF episodes defibrillated. Thirty-seven (80%) ended at the first shock. Success-

Table 1. Relation of Defibrillation Rate to Diagnosis.

Type of Episode	N	Defibrillated N (%)	Defibrillated by First Shock N (%)
Primary ventricular fibrillation; coronary disease	78	78 (100)	10 (90)
Fisher's Exact or X^2 Test		$p < .05$	$p < .05$
Secondary ventricular fibrillation; no coronary disease	175	162 (93)	120 (69)
Non-agonal ventricular fibrillation	198	195 (99)	160 (81)
Fisher's Exact or X^2 Test		$p < .05$	$p < .05$
Agonal ventricular fibrillation	55	45 (82)	30 (55)
All	253	240 (95)	190 (75)

Table 2. Lack of Relation of Defibrillation Rate to Body Weight.

							Total
Weight Range	KG	40-59.9	60-69.9	70-79.9	80-89.9	90-99.9	≥100-225	72.7 (mean)
Ventricular fibrillation Episodes Shocked	N	45	75	57	30	34	12	253
Ventricular fibrillation Episodes Defibrillated	N (%)	39 (87%)	70 (93%)	56 (98%)	30 (100%)	33 (97%)	12 (100%)	240 (95%)

ful shocks delivered 194 ± 11 j, or 1.8 ± .1 j/kg to these heavyweight individuals. In 33 VF episodes, 200 j defibrillated 31 (94%); 29 (88%) defibrillated at the first shock.

Thirteen of 253 (5%) VF episodes did not defibrillate. Of these six patients, five had agonal VF and the non-agonal individual was 4 days postoperative.

Shocks which delivered 40-240 j defibrillated at a 70% rate, significantly better than the 35% rate for shocks over 240 j ($p < 0.01$). Shocks between 2 to 2.9 j/kg defibrillated at a 77% rate. As delivered energy rose above 2.9 j/kg in increments of 1 j/kg, defibrillation rate fell significantly to 49%, 41%, 37% and then to 23% (chi square = 49, df = 5, $p < .0005$). Shocks below 2.0 j/kg defibrillated at 67%, which was insignificantly lower than the 77% for 2 to 2.9 j/kg ($p = .11$).

The mean duration of ventricular fibrillation in 73 patients was 176.6 ± 37.7 sec (range 2-1800 sec). The 69 defibrillated VF episodes with a mean duration of 118 ± 31 sec did not differ significantly ($p > 0.5$) from the four that failed after a mean duration of 153 ± 49 sec.

Discussion

Our data indicate that, in the energy range we employed, the patient's diagnosis and the clinical setting determined the outcome of defibrillation (Table 1). Weight did not determine success, nor did the duration of ventricular fibrillation. Moreover, our general 95% and non-agonal 99% defibrillation rates (Tables 1 and 2) occurred at only 33% of proposed but clinically untested recommendations for high energy output.[1,2,4,6] Diagnosis thus outranked body weight, duration of ventricular fibrillation, and energy output in achieving defibrillation in these adult patients.

Data from animal experiments indicated that the pony,[3] pig,[4] and calf[5] required respectively 1602 j (10.6 j/kg), 958 j (8.7 j/kg), and 862 j (8.6 j/kg) to defibrillate the ventricles. However, the extrapolation of such animal defibrillation rates to humans of comparable weight is probably unwarranted and even dangerous. These energy levels to defibrillate animals range from 4 to 8 times the energy we needed to defibrillate our heavyweight (90 kg) patients. Perhaps the hides, chests, and hearts of these animals provided greater impedance to the flow of defibrillating current to the heart than did their human counterparts of comparable weight.

Data from elective cardioversion of atrial and ventricular dysrhythmias indicate that complications increase as delivered energy increases.[15,17] An experimental radionuclide assessment indicated that a single direct current shock of 400 stored j injured the canine heart, but that 200 j apparently is safe.[18] While high energy shocks had little immediate effect on ventricular contractility in the dog, they induced VF in a majority of animals.[18] Our data showed that the rate of defibrillation tended to peak in the range of 2.0 to 2.9 j/kg. Furthermore, the defibrillation rate fell as energy level rose above 3.0 j/kg. Possibly this failure of higher energy was due to more shocks given a minority of patients who had failed to defibrillate after earlier shocks. However, we were unable to exclude injurious influences of higher levels of electrical energy as a cause of failure to defibrillate. In elective cardioversion of ten patients in whom cumulative shocks provided total energy levels above 240 j, evidence of electrical cardiac injury by rise of serum levels of cardiac isoenzymes (MB creatine phosphokinase) appeared in two (20%). These individuals received 524 and 437 j respectively and constituted 40% of those patients who received a total of more than 400 j delivered energy.[20]

As in several earlier reports,[8-14] our conventional devices defibrillated the vast majority of people in ventricular fibrillation at half their output capacity. With the present escalation of prices of equipment, including defibrillators, we see no need for the more expensive, high energy defibrillators now promoted and sold by ten of 14 American manufacturers. In fact, these devices not only cost more but also may produce electrical damage to the heart.[15,17,18,20] Thus, for the past three years the high-output defibrillator has remained an untested, unnecessary, potentially lethal dissipator of scarce resources in the emergency medical services system.[15]

Summary

In 94 resuscitative events in 88 adult patients in

ventricular fibrillation, the ventricles defibrillated in 240 of 253 (95%) episodes. Viable patients without agonal VF defibrillated in 195 of 198 (99%) episodes. Primary ventricular fibrillation and coronary disease always defibrillated. Successful shocks delivered a mean of 196 ± 5.4 joules. In 12 patients who weighed 91 to 225 kg, 98% of VF episodes defibrillated. Diagnosis, not weight, not energy, and not the duration of ventricular fibrillation, determined the outcome. Conventional devices storing no more than 400 j thus defibrillated at a rate of 95 to 99% and at delivered energies only one-third to one-half the untested high-output recommendation for adults.

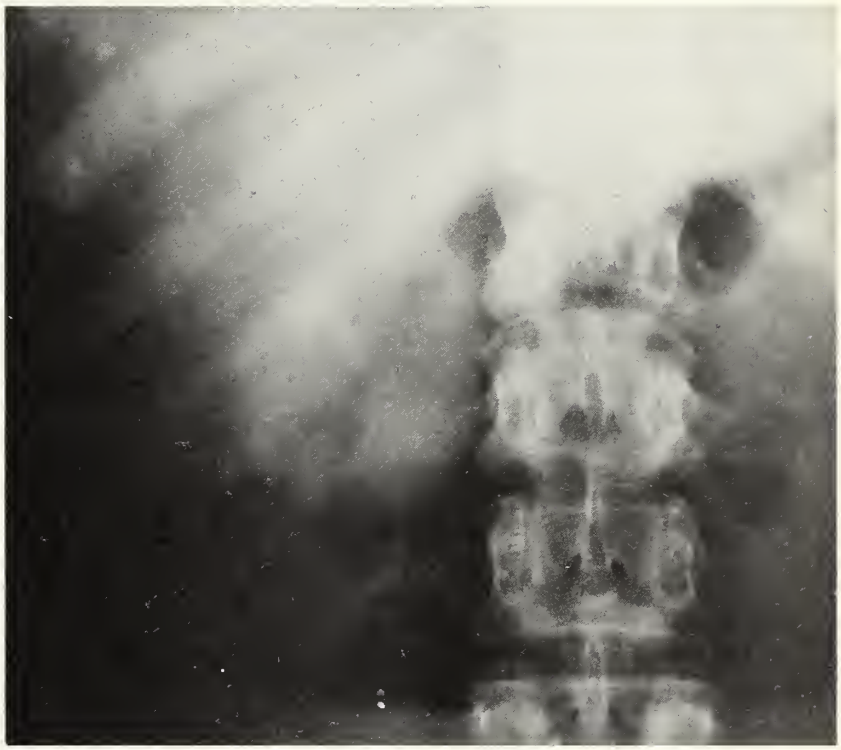
The prospectively collected data in the literature and the present report indicate that conventional devices can defibrillate the vast majority of patients at half their output capacity. The untested, expensive high-energy defibrillators marketed by most American manufacturers are unnecessary, potentially lethal, and economically wasteful.

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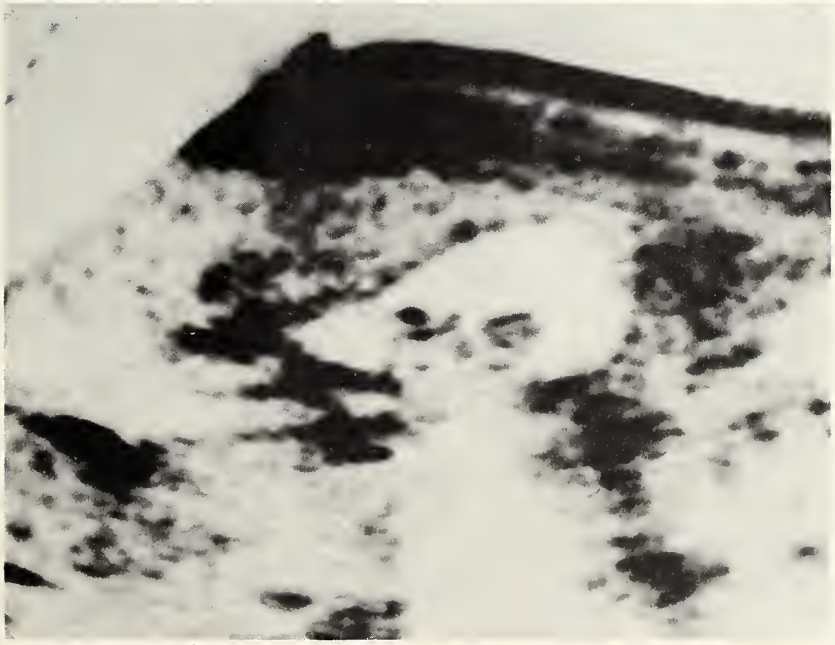
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Can You Diagnose This?

A medical puzzle prepared by
Mary Ann Turner, MD, and William H. Brewer, MD,
Richmond, Virginia



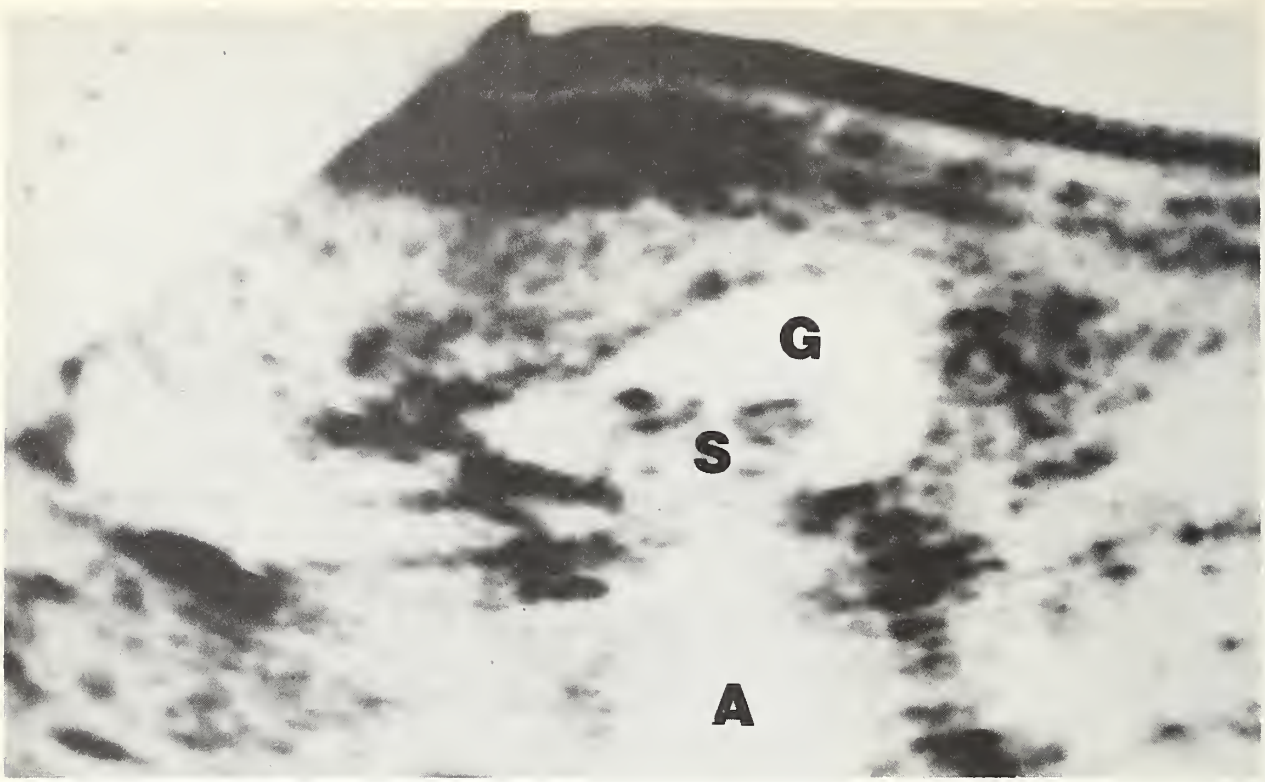
A 35-year old black female with a 3-month history of intermittent epigastric pain, nausea and vomiting was seen in the outpatient clinic. An oral cholecystogram (right) and ultrasound (below) were obtained. Which study yielded the diagnosis and what was that diagnosis?



DIAGNOSIS/DISCUSSION NEXT PAGE.

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Submitted 1-21-80.



DIAGNOSIS: Cholelithiasis.

DISCUSSION

The film from the single dose oral cholecystogram (OCG) revealed faint opacification of the gallbladder and multiple collections of gas overlying the gallbladder, partially obscuring the fundus. There was no evidence of unabsorbed contrast material in the bowel to suggest difficulty with absorption.

The diagnosis was found in the ultrasound study (above), in which the gallbladder (G) appears as a pear-shaped echo-free structure underneath the edge of the liver. Multiple gallstones (S) appear as strong echoes in the most dependent portion of the gallbladder. The ultrasound beam does not penetrate the stones because of total reflection and absorption of sound, which produces an "acoustic shadow" (A), or absence of echoes behind the stones.

Ultrasonography is a relatively new approach to the diagnosis of gallbladder disease. It may be used to supplement or clarify an OCG, or, in some cases, as the initial study before oral cholecystography. A frequent indication is in the evaluation of patients who demonstrate poor or absent opacification of the gallbladder following a single dose of oral contrast material; 15–25% of patients referred for oral cholecystography require a repeat dose to adequately opacify the gallbladder. In such cases, ultrasound may be performed immediately after the single dose study, avoiding the delay and expense of a repeat OCG.

Ultrasound may be used to evaluate patients who have difficulty in tolerating or absorbing oral contrast material. It may also be helpful in clarifying equivocal oral cholecystographic findings. An ultrasound examination cannot be satisfactorily performed in the presence of excessive intestinal gas or in patients with residual intestinal barium, however.

Ultrasound is indicated as the *initial* study for evaluation of the gallbladder in the emergency patient for whom the diagnosis of stones must be made quickly, in patients in whom it is unlikely the gallbladder will be opacified because of hepatic parenchymal disease or abnormal liver function studies, in the evaluation of the pregnant patient to avoid the risk of ionizing radiation associated with conventional oral cholecystography, and in those patients allergic to oral cholecystographic contrast agents.

The overall accuracy of ultrasound in diagnosing gallstones is 90-95%. Stones as small as 3 mm in size may be imaged by this method. The procedure is rapid, safe, non-invasive, and is readily tolerated even by the very ill patient. It has not replaced oral cholecystography as the primary screening examination of the gallbladder (the expense of ultrasound examination is approximately twice that of an OCG), but it is a valuable addition to current methods of imaging the gallbladder.

ABSTRACTS

The abstracts here presented are of papers to be presented at the annual meeting of the Virginia Surgical Society on May 2-4 at the Homestead, Hot Springs. W. Levi Old, Jr., MD, is the program chairman.

Pheochromocytomas: Plasma Catecholamines, CAT Scans, and Adrenergic Blockade. H. H. Newsome, Jr., MD, *Richmond.*

Six patients with pheochromocytomas have been operated upon at the Medical College of Virginia since computerized tomography and a reliable assay for plasma catecholamines became available. Diagnosis of pheochromocytomas at MCV had previously been established solely by detection of elevated urinary excretion of catecholamines or their products. We have found the measurement of catecholamines in plasma is as reliable as urinary measurement and is much more convenient. Arteriography had been the primary localization procedure. We have found that the CAT scan is as accurate as arteriography and is safer. One of the bilateral tumors in a patient was missed by scan, found by arteriography; on the other hand, a preaortic tumor was missed by arteriography, found by scan. Pre-treatment with alpha adrenergic blockade using phenoxybenzamine has been effective when instituted in the proper manner. Fluctuations in blood pressure appear to be dampened by this therapy. The tumor can be removed expeditiously and safely. Measurement of plasma catecholamines reveals marked elevations of norepinephrine during tumor removal in spite of fairly unimpressive rises in pressure. Diagnosis and localization have been simplified by new methods of assay and scanning while removal is made safer by appropriate drug therapy.

Air Embolism: Diagnosis, Treatment and Prevention. Matthew J. Lambert III, MD, *Charlottesville.*

Catheterization of the subclavian vein has become a standard procedure for hemodynamic monitoring or the administration of nutrient solutions. Air embolism represents one of the most important complications associated with this technique. It may occur during catheter placement, as a result of interruption of the tubing connection, or secondary to transmission of air through the intact line. Significant morbidity and mortality may occur. The diagnosis should be suspected in any patient with a central venous catheter who sustains a sudden cardiovascular collapse. The combination of significant hypotension, tachypnea progressing to apnea, and auscultation of a precordial "mill wheel" murmur is pathognomonic. The patient should promptly be placed on the left side in steep Trendelenburg position. Aspiration of air from the central venous catheter should be attempted and standard cardiopulmonary resuscitation undertaken.

The occurrence of air embolism during catheter insertion can be prevented by proper patient preparation, thorough knowledge of anatomy, and meticulous technique. Our use of a pressure monitoring line with a Luer lock instead of standard intravenous connecting tubing has eliminated accidental disconnection of the tubing at the catheter hub. Use of an infusion pump equipped with an air detector will prevent the inadvertent infusion of significant air into the tubing.

Endoscopic Meltzer Lyon Test: An Aid in Diagnosing Unexplained Right Upper Quadrant Pain. Antonio T. Donato, MD, *Roanoke.*

Between March 1978 and June 1979, 50 patients age 16 to 76 years complaining of recurrent disabling right upper quadrant pain, fatty food intolerance, indigestion, nausea and vomiting were subjected to endoscopic Meltzer Lyon test. All patients had prior normal gallbladder and upper GI x-ray examinations. Fifteen patients (30%) had positive Meltzer Lyon test (MLT). Of these, ten patients had abnormal endoscopic findings. Nine patients with positive MLT underwent cholecystectomy. Seven had cholecystitis with cholesterolosis while two had normal gallbladder. Thirty-five patients (70%) had negative MLT. Of these, 21 had positive endoscopic findings. Four patients in this group had cholecystectomy, two of which showed abnormal gallbladder.

Endoscopic Meltzer Lyon test is helpful in the diagnosis of acalculous cholecystitis and other associated upper gastrointestinal pathology to explain right upper quadrant pain in spite of normal gallbladder and upper GI x-ray. Positive MLT suggests gallbladder disease; negative MLT does not completely exclude gallbladder disease. The endoscopic findings explain the patient's symptoms in those with negative MLT.

Continued next page.

Management of Hypopharyngeal and Cervical Esophageal Carcinoma by Total Extrathoracic Pharyngo-Laryngo Esophagectomy and Gastric Interposition. John W. Baker, Jr., MD, *Norfolk.*

The surgical removal of large hypopharyngeal and cervical esophageal malignancies has often been approached hesitantly because of difficulties in obtaining an adequate lower margin of resection and because of the poor functional results of reconstruction of this area, with various skin flaps requiring multiple procedures and prolonged hospital stays. The primary radiation of these tumors with an aim towards destroying the tumor but preserving function is often not successful even in palliation particularly in patients with large bulky tumors.

A series of at least 12 total pharyngo-laryngo esophagectomies performed extrathoracically with gastric interposition is presented. Patients ranged in age from 16 to 82. No immediate mortalities have occurred. Hospital stays appear to be shorter than conventional reconstruction methods allow. Functional results are discussed, certain aspects of technique are noted and 18-month tumor followup is presented in terms of survival and palliation.

Technical Considerations in Fasciotomies for High Voltage Electrical Injuries. Richard F. Edlich, MD, Nehzat Nikahtar, MD, George T. Rodeheaver, PhD, and John T. Hiebert, MD, *Charlottesville.*

Patients with high voltage electrical injury have injury of sufficient depth to involve muscle. The injured muscle becomes edematous beneath its investing fascia, compromising the peripheral circulation. In such patients fasciotomies should be performed to relieve pressure in the sub-fascial compartment. Our operative approach for fasciotomies of the extremities described herein has been employed at the University of Virginia Burn Center for the last five years. For electrical injury of the upper extremity with an entrance wound of the finger, the finger is subjected to a zig-zag incision which continues to the palm along the palmar interthenar crease. At the wrist, the incision continues ulnar-ward to avoid injury to the palmer cutaneous branch of the median nerve. The flexor and extensor compartments of the forearm are decompressed by S-shaped incisions. Interossei decompression is accomplished through vertical incisions made in the intermetacarpal spaces that are carried down to the dorsal interossei.

For electrical injuries of the lower leg, the anterior tibial and both superficial and deep posterior compartments are decompressed by long longitudinal incision extending the entire length of the compartment. After the fasciotomy, complete exploration of the involved compartment is carried out to include inspection of periosseous tissues. Visualization of the muscles permits identification of the necrotic tissue, which is then debrided.

Recognition and Management of Acute Lower Extremity Thromboembolism. Thomas M. Daniel, MD, *Richmond.*

All cases of acute lower extremity thromboembolism at Johnston-Willis and Chippenham Hospitals during 1978 and 1979 were reviewed. Eighteen cases were seen with an age range from 36 to 88 years of age. The hospital mortality rate was 21% and the limb salvage rate was 71%.

The decision whether to amputate or to attempt thromboembolectomy must be individualized. Length of limb anesthesia alone is an unreliable criteria. Two cases with at least a 24-hour history of limb anesthesia underwent thrombectomy and achieved limb survival with careful postoperative management. On the other hand, three of the four hospital deaths in this series could conceivably have been avoided if immediate amputation had been performed, as disseminated intravascular coagulation, acute pulmonary insufficiency and cardiac arrest were their respective sequelae in the immediate postoperative period. Early recognition remains the keystone of successful therapy; the elderly patient with little muscle mass and the very young, physically active patient being the two categories in whom the diagnosis is often unsuspected and therefore treatment delayed. Recommendations are for immediate heparinization, avoidance of preoperative angiography, and emergency surgery with no delay. The two exceptions to this approach would be recognition of those who would benefit from initial amputation and those with pain and pulse loss but no motor or sensory loss who can be treated with heparin alone initially, followed by elective angiography and possible vascular surgery later.

Adult Annular Pancreas: A Case Report and Literature Review. W. W. Ferguson, MD, *Charlottesville.*

A case history is presented of a 63-year-old white male who at the age of 23 years underwent partial excision of a ring of pancreatic tissue to relieve duodenal obstruction. This case was originally reported by Edwin P. Lehman, MD, (Ann Surg 115:574, 1942) as the 48th reported case and 10th case treated by operation. A 40-year followup of this case is presented with review of the current literature regarding this clinical problem.

Radiation Therapy as an Adjuvant to Radical Mastectomy in the Treatment of Carcinoma of the Breast: A 25-Year Restrospective Study. J. E. Nevin, MD, J. T. Baggerly, MD, T. J. Moran, MD, and T. K. Laird, MD, *Danville.*

Radiation therapy has been a recommended adjuvant to radical breast surgery for the past 40 years. Even though recent reports have failed to support its continued use as an adjuvant, there still remains some controversy. This controversy led us to examine the contribution of adjuvant x-ray therapy in our patient population treated from 1950 to 1973. During this 25-year period, 540 patients with invasive ductal carcinoma were treated at the Memorial Hospital, Danville, Virginia. All patients were treated with the standard Halsted radical mastectomy and complete followup was available in 94% of the patients. For reasons that could not be determined, approximately 50% of the patients received postoperative adjuvant radiotherapy and the remainder did not. Approximately 26 separate pieces of information were gathered on each patient and programmed for computer analysis. The 5- and 10-year crude survival and the overall median survival of patients with positive lymph nodes who received adjuvant radiation therapy was compared to those with positive lymph nodes who did not, and a similar comparison was made in that group of patients with negative lymph nodes. Other parameters, such as type of radiation, size and location of lesion, number of positive lymph nodes, development of skin recurrences, and menopausal status, were also compared in each of the above categories.

The complete analysis of this data will be discussed. In brief, adjuvant radiation therapy did not benefit patients in any of the categories examined ($P < .001$) and appeared harmful in those patients with negative lymph nodes ($P < .001$). This study is unique in that it involves a geographically stable population where the pathologists and radiologists involved have been present over the entire length of the study and where 90% of the patients received their surgery from five local surgeons. This data was collected from the Tumor Registry of the Memorial Hospital, which has been in operation since 1950. All followups were direct. All data was subjected to chi square testing for significance and then analyzed by a biostatistician.

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Brain Abscess and Subdural Empyema: Review of 21 Cases

Darwin J. Ferry, Jr., MD, *Roanoke, Virginia*

BRAIN abscess or subdural empyema has a reported mortality of 30-40%.[1-3] Recent reports have shown a significant reduction of mortality with the use of computerized tomography of the brain.[4,5] A review of the 21 cases from the files of the Roanoke Neurological Center is presented.

Study

Sixteen brain abscesses, solitary and multiple, one patient with both subdural empyema and brain abscess, and four subdural empyemas treated from 1960 through 1978 are reviewed. Ages range from 9 to 62 years with an average of 37 years.

Most patients presented with severe headache (18 of 21) and a depressed level of consciousness (17 of 21). Seizures occurred in one-third, and five patients presented with nausea. These symptoms were present for less than a week in 60%, persisting for as long as a month in the remainder. Eight patients deteriorated dramatically within a 30-hour period, four prior to admission, and four while undergoing inpatient diagnostic evaluation. Rapid deterioration of just a few hours was noted in two.

Periorbital edema occurred in five patients, reflecting a high incidence of sinus infections. Hemiparesis (6 of 21), aphasia (3 of 21), staggering or ataxic gait (3 of 21) were other presenting findings. High fever was noted in only three patients.

A source of infection could not be found in five patients. Twelve patients (60%) had a sinus infection or a preceding ENT surgical procedure for chronic mastoid infection.

Microaerophilic *Streptococcus* was the most frequent organism cultured. Proteus and *Staphylococcus* were less frequent. No growth was obtained on five cultures.

Twenty-two surgical procedures were performed on 19 patients. Open surgical drainage was the most frequent procedure.

Five patients died, representing a mortality of 25% for this series. Five patients were discharged with neurological deficits of varying disability. Eleven patients were neurologically intact. There have been no deaths since the use of computed tomography (CT) scanning.

Discussion

Analysis of mortality and morbidity in this series reveals many contributing factors. The neurological condition of the patient was rated upon admission. The neurological status was graded: alert (A); drowsy, disoriented, but responsive (B); responsive only to pain (C); and nonresponsive to stimulus (D). Their condition at the time of surgery or diagnostic study was also noted. Four patients deteriorated while hospitalized. Patients who died or were disabled were functioning at a lower level of consciousness upon admission or at surgery. Delay in transfer and diagnosis were factors. Patients without neurological deficit upon discharge were in better condition upon admission or onset of therapy.

The diagnostic studies utilized played a significant role in the final outcome. For instance, Rosenblum[5] found a diagnostic accuracy of 93% with radionuclide brain scan and 85% accuracy with angiography in diagnosing brain abscess; he concluded that computerized tomography of the brain was the most sensitive tool in the diagnosis and therapy of brain abscess. This is supported by the present study and illustrated by the case of a 39-year-old man who was admitted with a diagnosis of meningitis secondary to pansinusitis. Admission CT scan (Fig. 1) was normal, and adequate antibiotic therapy was instituted. A repeat CT scan seven days later showed an area of focal edema in the left frontal region, and CT scan repeated again seven days later (Fig. 2) showed an abscess with an organized wall. Burr hole aspiration was performed. CT scan one month after surgery (Fig. 3) showed resolution of the abscess. Neither radionuclide brain scan nor angiography would have been reliable in following the postoperative changes.

Eight patients have been followed with CT scans. Seven are alive and well, and one has a hemiparesis. This patient was thought to have a cerebritis on misinterpretation of an isodense subdural empyema on the

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admission CT scan. A repeat CT scan during a 6-hour deterioration localized the empyema and prompt surgical drainage was performed.

Two patients who died were found to have multiple cerebral abscesses on autopsy. This multiplicity was not appreciated on admission ventriculography or radionuclide brain scan. Multiple abscesses have been readily identified with CT scan on this series and by others.[6]

CT scanning is useful in following the course of therapy. Three patients appeared to be cured after a brief course of antibiotic therapy; antibiotic coverage was decreased in one and terminated in the other two, but prior to discharge a repeat CT scan showed remaining brain abscesses. Adequate antibiotic coverage was then reinstituted and both patients have done well.

Adequate antibiotic therapy is another factor influencing mortality and morbidity. Kramer[7] has studied antibiotic penetration of brain tissue. Chloramphenicol was found to be concentrated within brain tissue in quantities greater than blood levels. Black[8] has studied antibiotic penetration into abscess cavities. Organisms within these cavities, however, remain viable in spite of therapeutic levels of antibiotics. This point reemphasizes the necessity of surgical drainage of loculated purulent material. In the present study, chloramphenicol 4 gm per day combined with penicillin G 20,000,000 units daily, nafcillin or methicillin 12 gm daily, administered parenterally for 4-6 weeks has been considered an adequate course of antibiotic therapy. In this series only one of 11 patients who are alive and well was found to have had inadequate antibiotic therapy by these criteria. However, four of six patients with continuing disability had inadequate antibiotic therapy.

Two patients in this series were successfully treated without surgical drainage. One was a 59-year-old lady who developed headache, confusion, obtundation, and lethargy within a 24-hour period. A *Streptococcus* pneumonia meningitis was diagnosed on lumbar puncture and culture of CSF. Adequate antibiotic therapy was initiated. After 12 days of therapy the dosage was decreased prior to discharge, but when a radionuclide brain scan and CT scan showed a right temporal lobe abscess, parenteral antibiotic therapy was restarted. CT scan 11 days later showed clearing, and repeat scan seven days later showed only residual edema. Early identification of cerebritis and abscess formation before significant organization of the abscess cavity has permitted nonsurgical therapy.[9-10] In such cases sequential CT scanning through complete resolution of the infected process is necessary.

Lumbar puncture is necessary in the diagnosis of bacterial meningitis. CSF findings in intracranial abscess are known to be nonspecific. Garfield[3] studied the risks of lumbar puncture in evaluating intracranial abscess, concluding that lumbar puncture in a patient with convulsions, hemispheric signs, or papilledema is contraindicated. In the present series, lumbar puncture was performed in ten patients in initial evaluation. It was useful in the diagnostic workup in two patients but may have contributed to the death of one patient.

Conclusions

1. Patients with a history of ENT infection who develop headache, seizure, or focal neurological deficit should be suspected of harboring a brain abscess of subdural empyema.

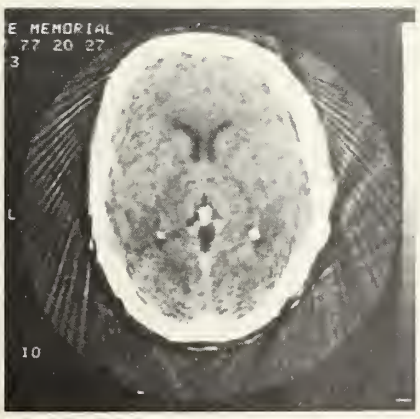
2. A diagnosis of brain abscess or subdural empyema should be made rapidly with either radionuclide brain scan or computerized tomography of the brain.

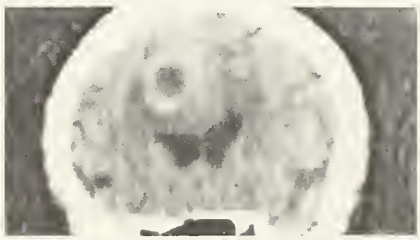
3. Adequate antibiotic therapy must include four weeks of parenteral administration. Chloramphenicol with methicillin, nafcillin, or penicillin G are recommended.

4. Physicians treating brain abscess or subdural empyema must be prepared to treat a rapidly deteriorating patient with appropriate neurosurgical drainage procedures.

5. Computerized tomography followup until complete resolution of the infected process is necessary.

6. Brain abscess and subdural em-





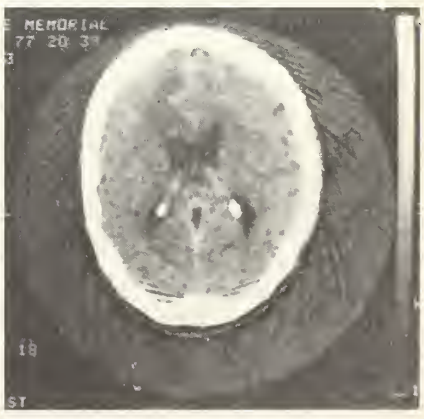


Fig. 1 (left). Normal CT scan on admission. Fig. 2 (above). Focal edema in left frontal region appears on scan made 7 days later. Fig. 3 (right). CT scan one month after surgery shows resolution of abscess.

pyemas can be treated without significant mortality or morbidity.

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Explosion in Sigmoid Colon After Cauterization

J. Milton Miller, MD, *Salem, Virginia*

Case Report

Mr. R. T., a 68-year-old gentleman with a history of diverticulosis and diverticulitis and a family history of malignancy, was seen in my office with left lower quadrant pain. His physical examination was negative except for left lower quadrant tenderness and a sigmoidoscopic was scheduled for the following week. At that time, an enema was given by the attendant to prepare the patient for his examination; when the sigmoidoscope was passed to 21 cm, a 4-5 mm sessile polyp was noted and was bleeding. After completion of the examination, the polyp was removed with a snare, and gentle pressure was applied with a cotton swab, but the bleeding continued. Suction was used and an electrocautery unit was activated to coagulate the bleeding site. At this moment the patient expelled flatus, I saw a blue flame at the other end of the sigmoidoscope, and, with a loud "boom", an explosion occurred, thrusting the patient forward. The sigmoidoscope was propelled back into my hand forcefully enough to push both my attendant and myself backwards. The patient experienced only minor pelvic discomfort but was aware of the forward thrust of his body. He promptly inquired as to what had happened, and I told him it was probably an explosion of "gas." I asked him to remain for awhile for observation. The sigmoidoscope was reinserted and no further bleeding was seen, although smoke was present in his lower colon. His vital signs remained normal, and he walked to the office, where he was further examined. After the elapse of an hour, he insisted on going home and was allowed to do so with the admonition to return if he had any pain. Approximately 20-30 minutes later, he called from his home, stating he was having severe pain and felt weak and sweaty. He was advised to come to the hospital immediately. Abdominal examination then revealed he was generally tender and had no bowel sounds. His blood pressure was 100/70, pulse rate 90, respirations 16 per minute. A white blood count at that time was 9,000. A flat and upright X ray of his abdomen showed air on both sides of the abdomen underneath the diaphragm. He was admitted to the hospital, seen in consultation by a surgeon, and was started on IV fluids, clindamycin and gentamicin. The white count was repeated, revealing an elevation to 13,000 with increased neutrophils. He was taken

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to the operating room approximately two hours after the explosion, at which time he was noted to have a perforated splenic flexure, a tear in his sigmoid colon and peritonitis from the fecal material. The descending colon was resected, a transverse colostomy was created, and a mucus fistula involving the sigmoid and rectum was made in the lower end of the incision. After surgery, he remained afebrile and his antibiotics were continued to the 6th postoperative day. He was discharged on the 12th hospital day with a functioning colostomy and no other treatment. He was readmitted to the hospital approximately 6 weeks later for closure of the colostomy. He is doing well, has had no abdominal pain, plays golf regularly, has gained approximately 10-15 pounds.

Discussion

The first analysis of intestinal gas in human subjects dates to the beginning of the 19th century, when samples of carbon dioxide, methane, nitrogen and other gases were obtained from the intestinal tract of newly executed prisoners.[1] For 100 years, hydrogen, methane, and hydrogen sulfide had been known to be inflammable and particularly so when these gases were mixed with oxygen, which is present in the intestinal tract.[2] A report in 1976 noted that approximately one-third of the population of each decade from ages 18-80 are methane producers and that their excretion of methane remains relatively constant over long periods of time[3]; fasting and gross alterations in diet do not appreciably influence the methane excretion. In contrast, hydrogen is produced in almost everyone's colon (over 95%), and the rate of production depends on the delivery to the colonic bacteria of ingested fermentable substances, primarily unabsorbed dietary carbohydrates.[3] Findings of increased concentrations in patients demonstrate the ability of colonic bacteria to produce hydrogen.

In a study in 1975, colonic concentrations of hydrogen or methane were found to be well below the hazardous level in 60 consecutive patients, undergoing colonoscopy.[4] An independent analysis of each preparation procedure used for colonoscopy indicated that the ingestion of a clear liquid diet for two days or fasting for 12 hours reduced their hydrogen production to a low level, but caused only a slight fall in the methane production excretion.[4] Thorough cleansing of the colon with cathartics and multiple enemas, which presumably remove the gas-producing organisms by physical means, reduces the excretion of both gases by over 90%.[5] Since the preparation of routine procto-sigmoidoscopic is rarely as vigorous as for a colonoscopy, conditions may exist which allow the production of hydrogen and methane in the colon, and these may pass in explosive concentrations into the sigmoid colon.

A case similar to this was reported in 1952.[6] noting that there had been no previous reports of harmful effects from the ignition of intestinal gases; the author also commented that books then current on proctology and gastroenterology made no reference to ignitions of such gases, nor recommended any precautions. Another case report also described an explosion of hydrogen gas in the colon during a proctoscopic examination in 1976.[5] It is presumed that bowel injury produced by such an explosion is the result of rapidly expanding gas.

In an attempt to prevent such episodes as this, several things have been recommended:

- Control of minor bleeding by use of silver nitrate, tannic acid preparations, pressure, observations or application of a rubber band to the stalk before removing the polyp, and avoiding the use of electrocautery whenever possible.
- Surround the polyp with the end of the sigmoidoscope in such a way as to block off the rest of the colon, preventing flatus from entering the field.
- Use of carbon dioxide in the area to decrease the explosive concentration of gas with oxygen, or consider using the same bowel prep as for colonoscopy.

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The Tolusa-Hunt Syndrome

Francis H. McGovern, MD, *Danville, Virginia*

THE Tolusa-Hunt syndrome[1, 2] is a type of third nerve paralysis in which pain is a prominent symptom. The pain and the paralysis is dramatically relieved by cortico-steroid therapy. The correct management of this syndrome requires careful differentiation from other conditions causing a painful ophthalmoplegia. The clinician should be familiar with the potentially serious diseases arising in the area of the anterior cavernous sinus, the orbital apex and the superior orbital fissure; for example, an aneurysm of the carotid artery, or a tumor extending from the orbit into the cranial cavity, or a traumatic carotid-cavernous fistula. If all studies for these are negative, steroid therapy should be tried. If the pain is relieved and the paralysis disappears, a diagnosis of Tolusa-Hunt syndrome can be made.

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Case Reports

An eighty-three-year-old woman was seen in the office with a third nerve pupil sparing paralysis on the right side. She complained of a steady aching pain behind her eye. In 1956 she had a Bell's palsy on the left side from which she recovered 95% of her facial function. She had a similar facial paralysis on the right side in 1971, with 85% return of facial function; her blood sugar was normal at that time. Radiographs of the skull, optic foramen and paranasal sinuses were normal. A general ophthalmoplegical and ear, nose and throat study was normal. Supplementary arteriograms, orbital tomography and brain scan were done and were negative. She had a slightly elevated blood sugar. The CAT scan was negative. The neurologic consultant felt she had a diabetic neuropathy. The pain and paralysis continued. She was discharged for office followup. Six weeks later she was given a steroid injection for an acute temporomandibular arthritis. The following day the patient announced her eye pain had disappeared. She continued her steroid medication and within a week the paralysis vanished.

A second patient was 59 years of age and a diabetic requiring insulin for control. Her past medical history included three previous attacks of Bell's palsy, two on the right side and one on the left. She recovered satisfactorily from the three palsies. In 1977 she had an isolated sixth nerve paralysis which recovered spontaneously in six weeks. At that time she had a thorough neurologic study, including skull X-ray and brain scan. A diabetic neuropathy was thought to be the cause of the paralysis. In November 1978 she complained of diplopia, eye pain and inability to open her right lid. Examination showed a third and fourth nerve, pupil sparing, ophthalmoplegia. Her neurologic study was repeated and negative. Other than the eye muscle paralysis, the eyes were normal for her age. The blood sugar was elevated to 240 mg/dl. There was no bruit over the eye; proptosis was absent. With our previous experience in mind we started her on steroid therapy. The pain promptly disappeared; the paralysis cleared slowly and vanished completely four weeks later.

The third case is less definite. An elderly black woman was seen in the hospital in consultation. She was disoriented, difficult to understand and impossible to control. Her diagnosis was chronic brain syndrome following multiple strokes, senility and arteriosclerotic heart disease. Her main problem seemed to be the blocking of the vision in her seeing eye by a ptosis of a third nerve paralysis. She kept her hand over the eye in an effort to relieve the pain in that area. She was started on steroid therapy. Within two days she became alert and more manageable; the ptosis and the pain apparently disappeared. Four days later she was transferred to a nursing home in another city and lost to followup.

Discussion

The pain in the Tolusa-Hunt syndrome is a steady boring aching coming on before or after the onset

of the paralysis; the paralysis of the third cranial nerve is usually pupil sparing and may include paralysis of the fourth, sixth and sympathetic division of the fifth cranial nerves.

The pathological lesion is apparently within and in the walls of the cavernous sinus. Granulation tissue engulf the cranial nerves but do not invade them.

The role of the otolaryngologist in this diagnostic problem is an important one because of the adjacent paranasal sinuses. A suppurative maxillary sphenoid or ethmoid sinusitis can produce an optic neuritis or an oculomotor nerve paralysis plus significant pain. A paranasal mococele, pyocele or cyst can extend into the orbit and simulate the pain and paralysis of the Tolusa-Hunt syndrome. Tumors extending from the nasopharynx can produce extraocular motor nerve paralysis without affecting ocular function. Thomas and Yoss[3] found 19 of their 102 cases of the parasellar syndrome to be caused by the local spread of nasopharyngeal tumors.

In these patients three questions invite speculative inquiry, especially in connection with a similar type paralysis seen in the facial or seventh cranial nerve. One question is the occurrence of diabetes in two of the patients. The frequency of diabetes in idopathic paralysis of the cranial nerves is well known. If the cause of the paralysis cannot be found and the blood sugar is only slightly elevated or the glucose tolerance test abnormal, a diagnosis of diabetic neuropathy is often made.

The second question is the history of previous multiple cranial nerve paralysis, especially the facial nerve, in two of the patients. The current literature stresses the association of seventh nerve palsies and other cranial nerve paralysis and introduces the concept of Bell's palsy as a part of a cranial nerve polyenuritis, usually of viral origin.

At the University of Virginia we feel that single or multiple cranial nerve paralysis can be a part of an immunologic process in which the neural edema is part of an antigen-antibody reaction with mast cell degranulation and the liberation of vaso-active amines. The facial nerve is especially vulnerable in this edematous process because of the secondary pressure factor of a nerve lying within the confines of the bony fallopian canal. The third nerve likewise has a degree of entrapment in its course into the orbit.

Finally, the success of steroid therapy in relieving the pain and paralysis in the Tolusa-Hunt syndrome is also seen in Bell's palsy. Although the role of steroids in Bell's palsy is controversial, there is no doubt that steroid treatment will quickly relieve the auricular pain. Also, some clinicians believe the course of idiopathic seventh nerve paralysis is favorable affected by steroids. We believe the reason for the improvement is the action of the drug as an immune suppressor and a membrane stabilizer.

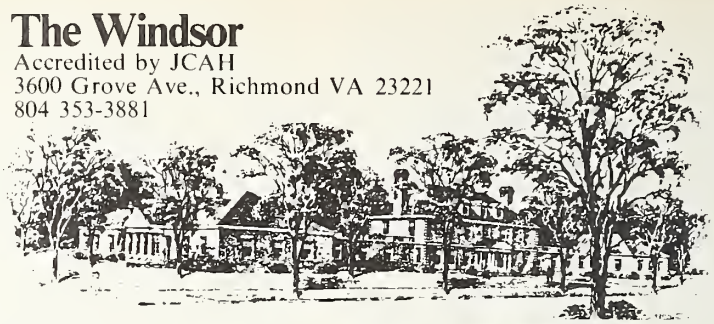
The early use of the steroid test before the completion of the diagnostic study has many advocates, but a word of caution is voiced by Fowler et al,[4] who warn of the danger of aborting investigation after successful management with steroids is achieved. Two of their cases appeared to respond to corticosteroid therapy. Eventually the correct diagnosis was made; one case had an orbital malignant lymphoma and the other an aneurysm of the cavernous portion of the carotid artery. Both cases, showed however, a proptosis as well as an expanded superior orbital fissure seen on X ray, which invalidates the diagnosis of a Tolusa-Hunt syndrome.

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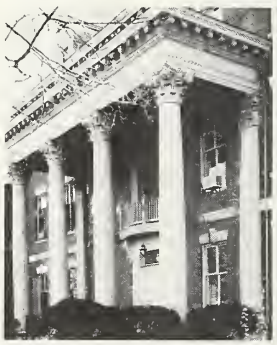
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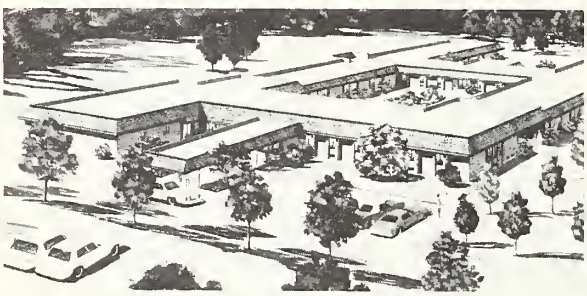
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The Medical Society of Virginia
PROCEEDINGS

Minutes of Council

A meeting of the Council of The Medical Society of Virginia was held in Richmond at Society headquarters on Saturday, February 2, 1980.

Members Present: Dr. George M. Nipe; Dr. Percy Wootton; Dr. H. C. Alexander, III; Dr. William S. Burton; Dr. Gervas S. Taylor, Jr.; Dr. Charles M. Caravati, Jr.; Dr. Gordon G. Birdsong; Dr. Glenn B. Updike, Jr.; Dr. William W. S. Butler, III; Dr. Robert C. Green, Jr.; Dr. Harry C. Kuykendall; Dr. John T. Hulvey and Dr. C. Barrie Cook.

Others Present: Dr. Harold L. Williams, 2nd Vice President; Dr. James P. Harnsberger, 3rd Vice President; Dr. James B. Kenley, Commissioner of Health; Dr. Richard L. Fields, Vice-Speaker; Dr. William H. Sipe, Dr. Frederick K. McCune, Dr. James A. Shield, Jr., Dr. James V. Scutero, Dr. Lawrence V. Marshall, Dr. John M. Stirewalt, Dr. George E. Broman, Dr. Nicholas G. Colletti and Dr. Gerald J. Fisher, Vice-Councilors; Dr. F. Ashton Carmines, Dr. John A. Martin, Dr. Michael A. Puzak and Dr. Carl E. Stark, AMA Delegates; Dr. William J. Hagood, Jr., Dr. Arthur A. Kirk, Dr. W. Leonard Weyl, Dr. Raymond S. Brown, Alternate AMA Delegates; Dr. Daniel N. Mohler, representing Dr. Norman J. Knorr, Dean, University of Virginia; Dr. Leo Kirven, Jr., Commissioner, Department of Mental Health and Mental Retardation; Dr. William S. Hotchkiss, Member Board of Trustees of AMA; Dr. Carol S. Shapiro, representing the Prince William County Medical Society; Mary Beth Cutting, representing University of Virginia Student Association; Sam Barton, representing the MCV Student Medical Association; Mrs. Charles G. Smith, President, The Medical Society of Virginia Auxiliary; Mr. Robert G. Stuart and Mr. Doug Douglas, VaMPAC; Mr. Allen C. Goolsby, III, Attorney for the Society; Miss Melanie Rhoades, Health Planning Coordinator, Richmond Academy of Medicine; Dr. George Contis and Mr. Edward S. DeBolt, Society Consultants.

Following the invocation by Dr. Carmines, Council's guests were introduced by Dr. Nipe.

Auxiliary

Mrs. Charles Smith, President, reported on recent activities of the Auxiliary and expressed the hope that members of Council would assist her in forming new auxiliaries at the local level. She called attention to the fact that associate membership is available to physicians' relatives—sisters, daughters, etc.

Mrs. Smith went on to report that over $19,000 has been raised thus far for AMA-ERF—an excellent start on the year. She called attention to two exhibits which the Auxiliary can make available, on exercise and obesity.

The Auxiliary is becoming more and more active where legislation is concerned and is anxious to work with Mr. Osburn and Mr. Goolsby in every possible manner. An indication of its interest can be found in the fact that its members are planning a full day at the General Assembly on February 28. Mrs. Smith stated that the Auxiliary will also continue to be active where VaMPAC and Vanguard are concerned.

4th District Councilor

Dr. Nipe expressed regret over the resignation of Dr. Gordon Birdsong as Councilor from the 4th District. As a result of the resignation, it was necessary that Council appoint a successor.

Dr. Butler nominated Dr. Anthony Munoz to succeed Dr. Birdsong. The nomination was seconded and a motion that nominations be closed was adopted. Dr. Munoz was then elected unanimously.

Council expressed its appreciation for Dr. Birdsong's many contributions during his years on Council and wished him every happiness in the years ahead.

St. Paul

Dr. Nipe reported that the Executive Committee had met Friday evening with representatives of the St. Paul Insurance Company. It was learned that while the number of malpractice suits in Virginia remain fairly constant, there has been a marked increase in the severity of claims. As a result of this worsening experience, St. Paul has found it necessary to file with the Insurance Commission a proposed premium increase of 33%. This increase would apply to the basic limits of $100,000/300,000.

For those physicians who have coverage in excess of $1,000,000, there will be an approximate 12% decrease for such excess coverage.

Dr. Nipe went on to report that St. Paul is understandably concerned about the increase and its reception by the membership. Consequently, it is initiating a dividend program which will return to participants any profit over 5% the Company might realize. It also is requesting the Society to employ its own actuary to study St. Paul's figures. The actuary's fee would be paid by the company.

Council was reminded that two insurance consultants are studying the feasibility of establishing a physician-owned malpractice insurance company and that the reports will be considered during Council's April meeting.

Annual Meeting

Council was advised that the 1979 Annual Meeting at the Homestead was, without question, the most successful in the history of the Society. Not only did the Homestead provide some of the finest facilities available anywhere in the state, but the overall cost to the Society was substantially lower than expected.

There followed considerable discussion with reference to future meetings and their location. Although the Society has been meeting in Williamsburg on even years, it has moved about the state during uneven years. A suggestion has been made that serious consideration be given to setting up an East-West format—even years in Williamsburg and uneven years at the Homestead. Although the majority seemed to favor the East-West arrangement, there were some who felt that other areas of the state should not be ruled out permanently. Council was assured, however, that the majority of physicians would much prefer the Williamsburg-Homestead pattern.

It was then moved by Dr. Kuykendall that the alternating East-West format be initiated in 1985 at the Homestead. The motion was seconded and adopted. It was also agreed that the proposed dates of November 7-10 should be accepted.

It was noted that arrangements have been made for the 1981 Annual Meeting to be held at the Omni in Norfolk, and the 1983 meeting at the Marriott Twin Bridges, Arlington. A question was raised as to whether the Omni possessed the facilities needed to handle a group the size of the Society and whether parking facilities are adequate. The size of the Society has increased substantially during the past several years and many facilities once considered adequate are now faced with problems they had never anticipated. Concern was also expressed over a shooting incident reported to have occurred in the parking lot of the Marriott Twin Bridges not too long ago. It was agreed that safety and security must always be primary concerns of those responsible for the planning of Annual Meetings.

Dr. Munoz then offered a motion which would have the staff explore the possibilities—legal and otherwise—of obtaining a release of those meetings already scheduled in 1981 and 1983. The motion was seconded and carried.

The Greenbrier was mentioned as a possible meeting location and it was suggested that the staff investigate that possibility.

Annual Meeting Format

Dr. Nelson reported that comments continue to be received concerning the scientific sessions of the Annual Meeting. A number of specialty groups have expressed dissatisfaction with the time restrictions placed upon their segments of the program. Some individual members, although pleased with the quality, have objected to what they consider programs lacking general appeal. Such comments have raised a number of questions about the Annual Meeting format—particularly with reference to the number of CME hours available.

Dr. Nipe indicated that some thought had already been given to ways and means of increasing the number of CME hours from six to 15. It was his feeling that this could be accomplished without adding more than one-half day to the meeting.

Following considerable discussion, it was moved by Dr. Alexander that a special committee be appointed to study the Annual Meeting format and make its recommendations known as soon as possible. The committee would confer with Dr. Nelson and other interested parties during the course of its study. The motion was seconded and carried.

Eastern Virginia In-Vitro Fertilization Project

Dr. Taylor informed Council that the Eastern Virginia In-Vitro Fertilization Project has successfully made its way through all channels leading to final approval and that implementation is scheduled for March. The project has aroused considerable interest over the nation and has been very much in the news. Dr. Taylor noted that the project is considered at this time to be experimental in nature and, consequently, is not covered by third-party insurers. The project will be watched with a great deal of interest.

Congressional Luncheon

Mr. DeBolt, acting on a request of Council, has finalized plans for the Society's annual congressional luncheon in Washington. The luncheon will be held on Wednesday, May 14, in Room S207 of the Capitol. Mr. DeBolt stated that this particular room is one of the best available and that the Society, for the first time, will have all of the room it needs. He stated that the staff has been provided with a detailed plan designed to insure maximum attendance and participation. This particular luncheon should be meaningful and productive.

Legislative Conferences

It was recalled that Council, several years ago, authorized sponsorship and financial support of legislative conferences in the various districts. It voted at that time to provide each district financial support in an amount not to exceed $300.

As interest in the Society's legislative program has increased, these meetings have grown in size and cost and the $300 restriction seems no longer advisable or practical.

There followed considerable discussion during which it was brought out that the conferences have generally proven quite valuable and certainly well received by physicians and legislators alike. Brought out was the fact that it was most important for the medical community to be well represented at the conferences. Dr. Shield recommended that the personal physicians of the various legislators be urged to attend and that special attention be given to putting together a meaningful list of invitees.

It was then moved by Dr. Cook that the district conferences be continued and that the Finance Committee consider the advisability of increasing the budget beginning next year. The motion was seconded.

A substitute motion was offered by Dr. Butler which would authorize an amount up to $1,000 for each district conference. The substitute motion was seconded and carried.

It was brought out at this point that legislative conferences are not political functions. They are strictly educational in nature and serve a useful and important function.

VaMPAC

Dr. Weyl stated that medicine can feel quite comfortable over the results of recent state elections. Seventy-three percent of those candidates supported by VaMPAC were victorious. He briefed Council on recent Federal Election Commission actions, paying particular attention to the FEC opinion that an affiliation exists between AMPAC and AMA. Since this opinion also affects political activities at the state level, VaMPAC will undoubtedly agree to a conciliation agreement with FEC similar to those concluded in Texas and several other states. This means that VaMPAC must be very careful to stay within designated limits as far as candidate contributions are concerned.

Dr Weyl went on to describe a voter education campaign which VaMPAC will soon begin in the 8th and 10th Districts. It was somewhat disconcerting to learn that approximately 35% of physicians in those districts are not registered to vote.

It was Dr. Weyl's feeling that The Medical Society of Virginia should somehow become more involved in VaMPAC activities and pointed out that the various conciliation agreements with FEC might very well make this possible. Council was pleased to learn that VaMPAC ranks No. 2 nationally in percentage of sustaining members.

Dr. Alexander raised a question concerning the position of IRS and Mr. Goolsby indicated that there are a number of questions which must be answered.

Chiropractic

Council was advised that the American Medical Association has recently rewritten its Statement of Policy on Chiropractic and Relations between Physicians and Chiropractors. As a result, it has been suggested that The Medical Society of Virginia might wish to review its own Statement of Policy and perhaps bring it in line with that of AMA.

Dr. Taylor moved that a special committee be appointed to study this particular matter and bring its recommendations to the next meeting of Council. The motion was seconded.

During the ensuing discussion, it was brought out that the Society's current Statement should perhaps be rescinded in order to eliminate any possible legal risk. Dr. Hotchkiss reviewed the AMA experience and the events which led to its new Statement of Policy. It was pointed out that although the individual

physician still has a right to associate or not associate as he thinks best, no restrictive action can be taken collectively.

Dr. Taylor's motion calling for the appointment of a special study committee was then adopted.

Continuing Medical Education

Although The Medical Society of Virginia supports AMA in its decision to withdraw from the Liaison Committee on Continuing Medical Education (LCCME), there remain a number of questions still to be answered. Dr. Nelson raised three specific questions—the first being whether the Society is the legal representative of LCCME and, if not, should the LCCME be so advised.

Dr. Hotchkiss reviewed those events which led to the AMA action, pointing out that many LCCME policy decisions were contrary to those of AMA. It was his feeling that any and all links with LCCME should be severed completely.

Dr. Butler moved that Council reaffirm the Society's previous action supporting AMA and that LCCME be so advised. The motion was seconded and adopted.

A second question had to do with notification of accredited institutions concerning the split and an effort to learn their wishes concerning future accreditation. Dr. Hotchkiss stated that AMA has made ample notification of its action and that everyone should be aware of the situation. It was moved by Dr. Taylor that those institutions accredited by the Society be advised of its decision and provided with an explanation of its action. The motion was seconded and carried.

A third question had to do with whether The Medical Society of Virginia accreditation records, currently in possession of AMA, should be made available to LCCME. The records concerned would bear on those institutions and organizations accredited by the original LCCME prior to July 25, 1979. AMA will not make such records available to LCCME unless authorized to do so by The Medical Society of Virginia.

It was the consensus that the Society has no obligation to LCCME where the records are concerned and a motion by Dr. Cook recommending that the Virginia records not be released by AMA was seconded and adopted.

A question was raised as to whether credits obtained through institutions accredited by LCCME would be recognized for Society membership purposes. It was generally agreed that such credits would be recognized. It was also agreed that the Committee on Continuing Medical Education should be asked for its thoughts on this and other related matters prior to the next Council meeting.

Health Department Clinics

The Committee on Ethics has called the Society's attention to problems which have developed in rural communities where local health departments conduct various types of clinics. It seems that after the clinic has been conducted, the local physician is placed in the position of caring for any complications that might develop. Since clinic records are often not available to the local physician, he has no way of knowing what is actually done or what kind of medication was prescribed. Although the clinics are apparently manned from 9:00 a.m. to 4:00 p.m., the patients, after that time, must be cared for by the local physician.

Dr. Weyl indicated that the Board of Health understands the problem and will undoubtedly take appropriate action. Everyone seems to recognize the importance of keeping the practice of medicine in the hands of private physicians to the maximum extent possible. There will always be, however, some patients who will have no alternative but to obtain their care at local clinics.

Dr. Kenley stated that the problem is essentially a local one and can and should be solved by local and/or regional health directors. He stated that some local departments have solved the problem by placing their records in the local hospitals for ready availability. Dr. Kenley went on to say that local physicians and health directors should be partners in the delivery of health care and seek to work out their problems together.

A suggestion was made that perhaps the Committee on Rural Health could consider the matter.

Survey Questionnaire

Dr. Nipe briefly discussed a questionnaire which he has received from the AMA Council on Long Range Planning and Development. Copies have been sent the voting members of Council in order that their thoughts can assist Dr. Nipe in preparing his official reply. The questionnaire is primarily concerned with matters pertaining to federation membership.

Council Meeting Dates

The next three meetings of Council will be held on April 26, June 28, and September 27.

Summer Travel Program

Dr. Nipe expressed some concern over the fact that the Society's summer travel program was set up to include use of a Russian vessel and port. In view of the

worsening international situation, there exists considerable doubt as to whether the Society should continue with its plans.

Since it was the consensus that very few members would wish to participate under the circumstances, Dr. Nipe stated that he would take immediate steps to cancel the trip. He will, at the same time, seek to line up an acceptable substitute if at all possible.

Anti-Trust Suit

Council was advised that the Society is once again being sued by Dr. H. Barry Jacobs for an alleged violation of anti-trust laws. The suit has been filed in the United States District Court for the Eastern District of Virginia and the Society is one of approximately 18 defendants.

Vanguard

Dr. Kuykendall brought Council up-to-date on Vanguard activities and stated that the consultants are now spending approximately 80% of their time on work related to the various HSAs. He called attention to the fact that the House of Delegates had approved 16 items contained in the Committee's supplemental report. Of particular interest was item #3 which stated that the Society should implement a statewide informational program designed to educate the citizens of Virginia as to the relationship between health planning decisions and their future impact on access to high quality health care.

As a first step in the education process, Vanguard has proposed a pilot program which would test physician ability to make a favorable impact on public thinking and sentiment in one area. The program would be a three-phase operation and would cost approximately $50,000. The pilot program would be carried out in the northern Virginia area and could be expected to take approximately seven to eight months.

Dr. Kuykendall moved that the pilot impact program be approved as presented and that necessary funds be appropriated. The motion was seconded and carried.

There being no further business, the meeting was adjourned.

Robert I. Howard, Secretary

APPROVED:
George M. Nipe, MD, President

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Virginia physicians can now dial the toll-free telephone number shown below to report problems with drugs, medical devices and in vitro diagnostic products. The number connects with the Product Problem Reporting Program operated by the US Pharmacopeia under contract with the Food and Drug Administration. John A. Owen, Jr., MD, Charlottesville, is president of the Pharmacopeia.

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VIRGINIA MEDICAL
EDITORIAL

Crime in the Libraries

A simmering indignation of many years' duration has finally erupted to protest an outrage directed against our greatest cultural asset: the printed word.

We have all become acquainted through the news media of a greater number of thefts of our preserved cultural treasures, such as paintings, pieces of sculpture and other more visible examples of human artistry and culture. A majority of these acts can be attributed to professional thieves and crooks who exist outside of the cultural and academic communities and stand to gain financially from their act while losing nothing from the environment which they inhabit. In fact, their actions may well enhance their reputations with fellow criminals.

The sector to whom this article is directed are to those who do live within the academic or cultural world and by so doing would be most expected to preserve and protect its assets.

The world treasures many tales, legends and ballads that have been handed down over the centuries but recognizes that many vital bits of information have been lost or distorted in the process. It was not until writing was developed that man was able to project his thoughts accurately to subsequent generations. Even this was limited until the printing press was invented by Johann Gutenberg about 1436, and then one was able to communicate to untold millions.

In spite of the outstanding contribution of our sophisticated audio-visual techniques, writing was and is the most valuable means we have a communication and expanding our culture. Music, painting, sculpture and the theatre, without question, demonstrate the cultural levels which man can reach. To attain artistry in each of these requires unusual ability and the most diligent application of time and effort. However, good writing stands at the pinnacle of our intellectual and cultural attainments and is the most difficult to attain. This fact was expressed well by Moore: "Easy writing makes cursed hard reading."[1] To express this otherwise: "Easy reading takes hard writing."

Inquiry was made to Mr. J. Craig McLean, assistant director of University Libraries at Virginia Commonwealth University, regarding experiences at the Medical College of Virginia's Tompkins-McCaw Library with book and journal thefts and mutilation. He was most cooperative and in a personal communication supplied some startling and most depressing information:

1. The problem is of a general and societal nature, not only for medical libraries but also for all public, all academic, and even theological seminary libraries as well.

2. Mutilation is the most prevalent and has even developed its own terminology. Missing articles from journals and chapters from textbooks are spoken of as having been "razored." At the present time, it has been found that one out of each 250 books or journals at his library has been "razored."

3. The book collection is well protected from theft (98%), but not from mutilation, by an electronic security system, but such protection is not possible for unbound journals. Selective replacement of muti-



lated text books and journals would run between $5,000 and $7,000, if in fact the titles can be replaced.

All of my colleagues have suffered from this type of vandalism, with results varying from frustration to significant loss of time and effort to their research articles, whether clinical or basic in nature.

It is possible that some of the culprits do not consider these acts as dishonest or dishonorable, but there is no way to judge them otherwise. Each should recognize that they are in truth committing intellectual genocide and deserve the title of "Vultures of our Culture."

ELAM TOONE, MD
McGuire Veterans Administration Hospital
Richmond, VA 23249

1. Bartlett's Quotations, 1940, p 279

Prehospital Emergency Cardiac Care in Virginia: Five Years of Progress

FIVE years ago only one prehospital emergency cardiac care system existed per million people in Virginia.[1] But since then, under the able leadership of Dr. William A. Dickinson of Virginia Beach, the Ad Hoc Subcommittee on Basic and Advanced Cardiac Life Support of the Bureau of Emergency Medical Services, Department of Health, has been busy developing standards of performance and procedures for certifying and recertifying cardiac emergency medical technicians. Members of Virginia's medical and rescue communities followed examples set in Virginia Beach,[1] Charlottesville and Albemarle County,[2] Waynesboro[3] and Haysi.[4] New, more sophisticated emergency services providing out-of-hospital basic and advanced life support appeared in Fairfax, Alexandria, Arlington, Norfolk, Winchester, Chesapeake, Suffolk, Portsmouth, Newport News,[5] Danville and lower Pittsylvania County, Williamsburg, Hampton, Roanoke, Salem, Warrenton and Fauquier County, Lynchburg, Gloucester, James City, York, Chase City and Mecklenburg County, Hopewell, Petersburg, Prince George, Dinwiddie, parts of Sussex County, Richmond, Henrico, Chesterfield, Prince William, Craig, Giles, Botetourt, Montgomery, Pulaski, Bland, King George, Westmoreland, Essex and Orange.

From the Cardiology Division and Emergency Medical Service, University of Virginia Medical Center. Supported in part by the Charles A. Frueauff Foundation, New York City, by the Robert Wood Johnson Foundation Emergency Medical Communications Network, project 1420, and by the Thomas Jefferson Emergency Medical Services System, DHEW project 03-H-000, 366-02.

Presented in preliminary form to the Working Group on Arteriosclerosis, National Institutes of Health, Bethesda Maryland, 23 April 1979, and to the conference on Medical and Legal Aspects of Decision Making in Resuscitation, Massachusetts Heart Association and American Society of Law and Medicine, Boston, Massachusetts, 26 April 1979.

Advanced cardiac emergency care is now available to over half of Virginia's people in their own communities, and its impact has been beneficial. Attempts are underway now to develop similar emergency services in the cities of Fredericksburg, South Boston and Bristol and in the counties of Greene, Nelson, Loudon, Stafford, Halifax, Floyd and Carroll.

But the scope of the problem remains enormous.[6-8] In the United States as well as in Virginia, there is good reason to believe that the risk of sudden death is virtually identical to the risk of coronary heart disease. In the report of the 1977 Working Group on Arteriosclerosis, 643,000 deaths were attributed to coronary heart disease in the US in 1975.[9] Autopsies of those who have died suddenly inevitably show widespread coronary obstruction from atheroma, scars in the muscle, and, in about half of the cases, a recent myocardial infarction. The heart weight appears to be greater than normal. Observations of coronary death inside and, subsequently, outside hospital indicate that sudden death is most often due to ventricular fibrillation. Men have a higher risk of sudden death than women. This difference disappears as the rate of coronary disease increases in women with increase of age. The relative risk of sudden coronary death is larger in younger males, but advancing age appears to increase this risk at least until age 65 years.

Gluttony, sloth and the frequently associated hypertension and diabetes increase the risk of sudden coronary death, and hypercholesterolemia appears to be associated with it. Inhaling tobacco smoke is a major risk factor in sudden coronary death. Finally, chronic bronchitis, asthma and emphysema have ap-

peared as risk factors in sudden cardiac death. An increased frequency of coronary disease and sudden death has been found in lower socioeconomic classes. In Finland, severe stress situations have been identified as initiators of acute coronary attacks. It is not yet clear if the type A personality leads to sudden coronary death, but there are many who believe that this psychological subset may one day be proved a particularly vulnerable population for sudden coronary death.

The results of application of cardiac emergency procedures throughout the community have been appreciable. The major clinical events in coronary atherosclerosis outside hospital are sudden cardiac death, most often from ventricular fibrillation (VF), acute myocardial infarction, angina pectoris, pulmonary edema, bradyarrhythmia with shock, asystole, and cardiogenic shock. The majority of deaths occur within two hours from ventricular fibrillation outside hospital, preceded by chronic and, more acutely, acquired dysautonomia.[10,11] Nevertheless, sophisticated, pragmatic, medically controlled systems have identified and then treated the coronary patient with cardiac arrest from ventricular fibrillation.[12-14] Long-term life-saves by emergency services have ranged from 2.6 to 20.6 per 100,000 people and have contributed significantly to the reduction of deaths in the community from coronary disease.[15-22] When corrected for the fourth to seventh decades of life, marked by sudden coronary death, survival rose to 14.8 per 100,000 people. Individuals with myocardial infarction proved twice as hardy as those with coronary disease and no infarction.[15]

Is there indeed a need for out-of-hospital emergency care for the coronary patient? Some have said no, but they have not addressed all issues.[23] In the United Kingdom, the Bristol trial attempted to randomize treatment of comparably ill coronary patients between home and hospital, but included no patients initially encountered in ventricular fibrillation. The Nottingham group claimed that the coronary ambulance selected the least ill; exactly the opposite proved true in the Columbus, Ohio, survey.[21] In fact, a subsequent report indicated that the Nottingham cardiac ambulance had favorably influenced both randomized and unrandomized treatment of coronary patients between home and hospital.[19] Most reports of American experience suggest that emergency care outside hospital is the major determinant of outcome and therefore support the contention that hospitalization for certain coronary patients carries little advantage in terms of reduced mortality.[19] Finally, strategies for rural emergency cardiac care pose difficulties because the low density of population and distance from ambulance depot preclude rapid response during the period of greatest risk of sudden death. This is a very real problem in rural Virginia.

We can logically conclude that emergency care outside hospital lowers morbidity and saves lives and money for the community.[1-5,10-22] We can account precisely for life-saves. Cardiopulmonary resuscitation, ventricular defibrillation, and short- and long-term survival constitute relatively measurable interventions and outcomes.[10,15-24] However, major analytic obstacles still confront us.[11,20] How do we quantify the apparently unquantifiable prevention of sudden coronary death? How can we estimate the effect upon morbidity and mortality of averted cardiac arrest by a variety of pharmacologic interventions which correct the autonomic disturbance, blunt ischemic chest pain, extinguish prefatal tachy-and brady-dysrhythmias, and thereby thwart more extensive cardiac damage? Adduced support for the latter stems from the rather low frequency (3-5%) of cardiogenic shock in patients initially treated outside hospital for acute myocardial infarction.[10,19,20] Finally, emergency care outside hospital has proved cost effective. The estimated worth of life-saves to the community outweighs the added costs to the community's extant emergency service.[19,20]

Cardiac emergency services first employed hospital-based physicians,[10] then paramedics.[12-15] Wider dissemination of less highly trained rescuers provided more rapid first responders to the victim of sudden cardiac arrest, but paramedics were more effective.[15,16,24] In surburban-rural King County, Washington, the rate of successful short-term resuscitation from cardiac arrest outside hospital improved from 20% to 32% with addition of paramedics to the emergency medical systems. Moreover, the long-term life-save rate doubled from 8% to 18%. Basic life support within four minutes of cardiac arrest and advanced life support within eight minutes outside hospital yielded a 51% survival of subsequent hospitalization. Four minutes or more to basic and under eight minutes to advanced life support produced a 25% hospital survival rate. Under four minutes to basic, but eight or more minutes to advanced life support yielded a 15% hospital survival rate. Those individuals with four or more minutes to basic and eight or more minutes to advanced life support fared worst, with 5% survival.[24]

The interval to advanced life support is clearly an important determinant of outcome. Additional training limited to defibrillation for the basic emergency medical technician (as contrasted with comprehensive training of the paramedic) is now being assessed to compare with the survival rates established for

paramedic and physician staffed services.[24] In this context of wide dissemination of defibrillators, inexpensive, lightweight, portable devices might prove useful. The majority of coronary patients with primary ventricular fibrillation require less energy to defibrillate than non-coronary patients. Furthermore, coronary patients rarely need more than 200 joules of delivered energy to defibrillate.[25,26] New, smaller devices might therefore be manufactured for use by emergency workers and actually lower the cost of equipping emergency systems.

Our most important task is to teach Virginians elementary emergency care, the life-saving tasks of the first responder. Education of the public has taken two forms. For over a decade, many agencies have disseminated widely, via the media, the risks of acquiring coronary disease as related to untreated high blood pressure, inhaling tobacco smoke, untreated hyperlipidemias, dyslipoproteinemias and diabetes mellitus, gluttony and sloth. The recent decline in coronary death rate possibly mirrors a response by the American public to these efforts at mass education. Nevertheless, both primary prevention and early detection of individuals prone to sudden coronary death remain elusive. We do not know if earlier use of emergency services has occurred. A second approach taught the public cardiopulmonary resuscitation.[15,16,27] Information about early symptoms and risk factors was included. In Seattle, Washington, and Oslo, Norway, long-term survivors respectively doubled and quadrupled when the public began basic life support before arrival of the ambulance.[15,16,27] Morbidity also declined.[16] Cardiopulmonary resuscitation by the public thus proved a critical adjunct of emergency care outside hospital. Finally, reappraisal of the technic of cardiopulmonary resuscitation indicated that increased duration of lower thoracic compression augmented blood flow to the brain.[28] Self-resuscitation by vigorous coughing has been documented and merits further investigation.

What of the future? How can we spot the asymptomatic coronary patient with greatest risk of sudden death for the emergency service? By prospective assessment in males over 30 years of the 24-hour ECG record, the corrected Q-T interval, the radionuclide myocardial perfusion scan, and ultrasonic investigation of the proximal coronary arteries? We literally need a new Framingham-Albany study. However, we can now identify the high risk patient after infarction by recording ventricular dysrhythmias and prolonged Q-T interval[11,29,30] and by angiographic and radionuclide criteria of ventricular dysfunction and coronary obstruction.[31,32] Leaving aside pharmacologic and surgical agencies to prevent or remove ventricular fibrillation, we now need to explore a variety of potential influences upon preventing or reversing sudden coronary death. For example, the lower level of energy needed to defibrillate the coronary patient permits manufacture of a smaller device, thereby reducing cost, enhancing dissemination (like fire extinguishers) amongst high density working, recreational or travelling populations, and saving more lives.[10,25,26]

Selected high risk patients might qualify for an implanted automatic defibrillator. The families of high-risk patients not only might be trained in basic life support,[16] but also in use of a miniature defibrillator.[10,25,26] High risk individuals might be trained in the self-resuscitation technic of vigorous coughing.[33] Trans-telephonic or radio monitoring systems might be employed by patients or relatives to obtain advice and to self-administer drugs. The prototype of a system for automated transtelephonic resuscitation for the coronary patients has been assembled recently.[34] We should bear in mind that excision of the left stellate ganglion to prevent ventricular dysrhythmias and raise the threshold to ventricular fibrillation merits investigation.[11] In addition, randomized trials of lidocaine and other drugs outside hospital might provide invaluable insights; such assessments should include the potential influences of self-medication from the onset of symptoms as well as administration by emergency personnel at first contact.

Finally, we need result-specific appraisal of teaching the school children of Virginia to resuscitate and of mass media-blitzing the coronary-prone public. Will the coronary patient, the family or the bystander request cardiac emergency service earlier? If so, will morbidity or mortality decline further?

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References on request.

VIRGINIA MEDICAL OBITUARY

Robert V. Terrell, MD

Dr. Robert Vaughan Terrell, longtime Richmond proctologist and past president of the Richmond Academy of Medicine, died February 5 at the age of 69.

A native of Buckner in Louisa County, Dr. Terrell was graduated from the College of William and Mary and received his medical degree from the Medical College of Virginia, where he later served as assistant professor of surgery. In 1933 he was a special fellow in surgical pathology at the Mayo Clinic, Rochester, Minnesota.

Dr. Terrell went into private practice in Richmond in 1936. During World War II he served in the Army Medical Corps and was chief of proctology and septic surgery first at Kennedy General Hospital, Memphis, Tennessee, and later at the 80th General Hospital in Manila, the Philippines. He resumed his private practice after the war's end and served as chief of surgery and chief of the medical staff at Retreat Hospital.

Dr. Terrell was parliamentarian of the Richmond Academy of Medicine at the time of his death. He had been president of the Piedmont Society of Colonic and Rectal Surgeons and vice president of the American Society of Colonic and Rectal Surgeons. His membership in The Medical Society of Virginia spanned 44 years.

Henry A. Hornthal, MD

Dr. Henry Amiss Hornthal, 78 years old, died January 21 at his home in Arlington. He was a former president of the Arlington County Medical Society and a former vice president of the Alexandria Medical Society.

Born in Norfolk, Dr. Hornthal attended St. John's College, Annapolis, Maryland, Georgetown University, and George Washington University and was graduated from the Medical College of Virginia in 1924. At the time of his graduation from MCV he was 22 years old and said to be the youngest physician in the country.

Following training at St. Elizabeth's and St. Luke's Hospitals, he moved to Washington and practiced there and in Alexandria until his death, specializing in obstetrics and gynecology. He did post-graduate work at the Mayo Clinic, New York Polyclinic, and at George Washington University Medical School, where he was an instructor from 1926 to 1939. He served during World War II as a flight surgeon in the US Naval Reserve and received the Marine Corps, Naval Reserve, and Defense and Victory Medals. He retired as a commander.

Dr. Hornthal had been a member of The Medical Society of Virginia for 54 years. He belonged also to the Southern and American Medical Associations, the American Society of Abdominal Surgeons, and had been president of the Medical College of Virginia Alumni Association in Washington.

Richard B. Blackwell, MD

Dr. Richard Bertram Blackwell, former public health director for Newport News, died January 28 at the age of 86.

A native of Laurinburg County, Dr. Blackwell was educated at the College of William and Mary and earned his medical degree at the Medical College of Virginia. He served in the Navy Medical Corps for 30 years, retiring as a captain in 1947, and then served as health officer in Buena Vista, Lexington and Rockbridge County. He was Newport News' chief health officer from 1951 until his retirement in 1961.

Eric Carl Schelin, MD

Dr. Eric Carl Schelin, Richmond, professor emeritus of obstetrics and gynecology at the Medical College of Virginia, died February 3. He was 70 years old.

Born in Sweden, Dr. Schelin came to the United States with his family in his early childhood. He was graduated from the University of Iowa and Marquette Medical School and trained at Polyclinic Hospital in New York City, Free Hospital for Women in Boston, and the Medical College of Virginia. He joined the MCV faculty in 1939 and retired in 1979.

Dr. Schelin served with the Army during World War II, participating in the Rhineland and Central European campaigns.

He was a longtime member of The Medical Society of Virginia and belonged as well to the Richmond Academy of Medicine, the Richmond Obstetrical-Gynecological Society, the American College of

Obstetricians and Gynecologists and the American College of Surgeons.

Verlin E. Miles, MD

Dr. Verlin Estelle Miles, Arlington, died of pneumonia at Circle Terrace Hospital in Alexandria on April 1, 1979. She was 69 years old.

Born in Northeast, Pennsylvania, Dr. Miles was educated at George Washington University, receiving her medical degree from the School of Medicine in 1933. She trained at the university's hospital and also at Children's Hospital in Washington. After six years in private practice in Arlington, she entered the field of public health and on her retirement in 1972 had worked for 15 years in neighborhood clinics for the Department of Human Resources, concentrating on the control of ringworm. She had been a member of The Medical Society of Virginia for 35 years, was a life member of the Arlington County Medical Society, and had served as a member of the boards of the area's Heart and Lung Associations and the local chapter of the American Red Cross.

Memoir of Byrd S. Leavell 1910-1979

The Albemarle County Medical Society lost one of its most faithful and distinguished members when Dr. Byrd Stuart Leavell, professor of medicine at the University of Virginia of Medicine, died on 5 November 1979.

Dr. Leavell was born in Washington, DC, in 1910 and raised in Culpeper, Virginia. After graduation from the Virginia Military Institute in 1931 he entered the University of Virginia School of Medicine. He received his MD degree in 1935, after which he went to the New York Hospital for postgraduate training in internal medicine and hematology. He returned to the University in 1938 and worked as a fellow with Dr. J. Edwin Wood, Jr., until the following year, when he joined the faculty as instructor in medicine. Except for a period of military service during World War II, he served the University of Virginia as a faculty member for the next 40 years. He was made a full professor in 1954.

His career at the university was interrupted for four years between 1942-46 when he served with the university-sponsored Eighth Evacuation Hospital. After serving three years in North Africa and Italy, he was awarded the Bronze Star and separated from the service with the rank of major. He later wrote a comprehensive history of that hospital. Published in 1970, "The Eighth Evac" was received with great enjoyment and enthusiasm, especially by those who had served in the organization.

After demobilization he returned to the University of Virginia in 1946 and while continuing his heavy clinical responsibilities, served the university in several administrative posts, including assistant dean from 1958-1961 and chairman of the Department of Medicine from 1966-1968. His own ill health dictated his resignation from these positions.

Dr. Leavell was one of the pioneers in the field of hematology and was responsible for the development of the specialty at the university. He made significant contributions to the field by publication of many articles, monographs, and textbooks. Dr. Leavell supervised the training of 35 specialists in hematology.

Dr. Leavell was a member of numerous societies, including the Southern Society for Clinical Investigation and the American Clinical and Climatological Association. His honors included election to Alpha Omega Alpha, the Raven Society and Sigma Xi. He was awarded the University of Virginia's Distinguished Professor Award in 1972 and was recognized that same year by the Louise Obici Memorial Hospital in Suffolk for "Outstanding Contributions to the Medical Profession." A Byrd Stuart Leavell Room in the new Health Sciences Library has been endowed by former residents and fellows, and an award for students in hematology has been established in his name. He received the highest honor of the Virginia Military Institute Foundation, the Distinguished Service Award, as part of the Founder's Day Convocation in 1976. Shortly before his death he learned that the campaign to endow the Byrd Stuart Leavell Professorship of Medicine had succeeded.

Dr. Leavell was an active member of St. Paul's Episcopal Church in Charlottesville.

He is survived by his wife, Mrs. Nancy Butzner Leavell, and their children, Mrs. Anne Leavell Reynolds, Mrs. Lucie Leavell Vogel, Dr. Byrd Stuart Leavell, Jr., and six grandchildren. In addition, Dr. Leavell is survived by two sisters, Mrs. Henry D. Blake of Culpeper and Mrs. Charles J. Blake of Wilmington, North Carolina. Devoted to his family, he lived to see his children well educated, married, in promising careers, and each with children of their own.

Dr. Leavell was a dedicated, talented and widely respected physician who provided his patients with sage advice and comfort. An exemplary teacher, he was unsurpassed in his ability to relate to students, house officers and fellows. He had a profound influence on the affairs of the University of Virginia, where his associates regularly asked for and followed

his advice. All that he undertook was accomplished with a fine balance of dignity, wit, wisdom and grace. He was a complete physician, always a gentleman, and lived a fulfilling life.

With Dr. Leavell's death, the profession has lost a distinguished physician, and the members of the Albemarle County Medical Society have lost a loyal and trusted friend.

Prepared and published at the request of the Albemarle County Medical Society.

Memoir of W. S. Hooten 1908-1979

By Frank N. Buck, Jr., MD, L. R. O'Brian, Jr., MD, and Lewis F. Somers, MD

By the death of Dr. William Samuel Hooten on November 8, 1979, the Lynchburg Academy of Medicine lost a valuable associate. Dr. Hooten, the son of the late Dr. Claude Gibson Hooten, was born in Bronwood, Georgia, but from early childhood Lynchburg, Virginia, was his home.

Dr. Hooten's educational experience was varied. He attended Lynchburg public schools and received his BS degree from Lynchburg College in 1939. His medical education followed, with his MD at Duke University in 1943; internship and assistant residency in medicine was served at Grady Memorial Hospital in Atlanta, Georgia; residency in medicine followed at Southwest Medical School in Dallas, Texas.

Serving in the Army of the United States with the rank of captain, he was chief of the medical services at Fort Dix, New Jersey. Military duty was followed by one year of service as instructor in the Department of Medicine at Emory University.

Dr. Hooten returned to Lynchburg in the private practice of internal medicine in 1947, serving the community for 32 years until his death. Because of increasing health problems in recent years, he limited his practice volume, rendering very personal care to those patients benefiting from his skills. Dr. Hooten's interest beyond the practice of medicine included devotion to his family and to his church, Rivermont Presbyterian Church, where he served as an elder.

His professional memberships were of the medical staff of both Lynchburg General Hospital and Virginia Baptist Hospital, the Lynchburg Academy of Medicine, The Medical Society of Virginia and the American Medical Association.

Prepared and published at the request of the Lynchburg Academy of Medicine.

Memoir of S. S. Morrison, Jr. 1919-1979

Dr. Samuel Stuart Morrison, Jr., a long-time physician of Leesburg, died on November 17, 1979, in Pearisburg, Virginia. He is deeply mourned by his fellow physicians and patients alike.

Dr. Morrison came to Leesburg in 1954 after completing his post-graduate work at Mercy Hospital in Springfield, Ohio. He had attended the University of Virginia and was graduated from the Medical College of Virginia in June of 1953.

Dr. Morrison was born and raised in Groveland, New York, and had the dubious distinction of having been the first person drafted into the army from that town in January of 1941. He went into the Medical Corps, where he served until the end of World War II and rose to the rank of captain. He received his medical degree after his discharge from the army.

Dr. Morrison was active in many activities in the town of Leesburg. He was past president of the Leesburg Rotary Club, past president of the Loudoun County Medical Society, and past chief of staff at the Loudoun Memorial Hospital. He was an expert on parliamentary procedures and could be counted on at all meetings to see that the correct procedures were carried out.

After 25 years of practice in Leesburg, his presence will be sorely missed. Dr. Morrison was popular with all who knew him and was an intelligent, well-rounded physician. He is survived by his wife, Mrs. G. Patricia Morrison, and children: George H. Morrison, Susan L. Morrison, Elizabeth Robinson, Elaine Whitehurst, S. Stuart Morrison III, and Emily Morrison.

Prepared and published at the request of the Loudoun County Medical Society.

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WHO'S WHO

The breezy energy brought by **Dr. W. Leonard Weyl,** *Arlington,* to the presidency of The Medical Society of Virginia in 1976-1977 is focused these days on the Virginia Medical Political Action Committee, of which he is chairman. As is true whenever Dr. Weyl is at the helm, VaMPAC is moving at a fast clip into new channels.

This month the Virginia chairmen of the nation's two leading political parties will speak at MSV headquarters at the invitation of VaMPAC's officers and directors. One of these two chairmen is a Medical Society of Virginia member: **Dr. Alfred B. Cramer III,** *Culpeper,* chairman of the Republican party for Virginia. The Democratic party will be represented by its Virginia chairman, Richard A. Davis, Portsmouth.

They will relate state news and views of their respective parties after a luncheon on April 19 at which members of the "PAC 250 Club" will be guests. The PAC 250 Club is an elite group of doctor-contributors; 70 Virginia physicians have bought $250 tickets of admission to this club since **Dr. Harold E. Nemuth,** *Richmond,* no slouch himself at energizing bright ideas, launched it last year when he was VaMPAC's chairman.

The luncheon meeting this month is only the first salute to these highly prized PAC 250 members. In July they are to lunch with Governor Dalton, no less, at one of Richmond's nicer homes, the Governor's Mansion.

Dr. Weyl is a magnet for honors. He was recently appointed to the board of directors of AMPAC, the national medical political action committee, and is in his first year as a member of the Virginia State Board of Health. Serving with him as VaMPAC officers are **Dr. A. Epes Harris, Jr.,** *Blackstone,* chairman elect; **Dr. Harold L. Williams,** *Newport News,* vice chairman (and also an MSV vice president); **Dr. Gerald Crain Burnett,** *South Boston,* treasurer; and **Dr. Percy Wootton,** *Richmond,* VaMPAC's secretary and The Medical Society of Virginia's president elect. They interrupted a meeting at the Society's headquarters early this year to stand for the group portrait on this page.

Dr. William Ferguson, *Suffolk,* and **Dr. Probo Herrera Castillo,** *Richlands,* have been named fellows of the American Academy of Family Physicians.

Dr. William H. Sipe, *Newport News,* is chairman of the Committee on Arrangements for The Medical Society of Virginia's Annual Meeting 1980, to be held November 6-9 at the Williamsburg Conference Center. Joining him on the committee are **Dr. Harold L. Williams,** who will supervise plans for the traditional Saturday night banquet; **Dr. John Q. Hatten,** in charge of the golf tourney; and **Dr. James K. Davis,** who will shape up the tennis tourney. All are members of the Newport News Medical Society, host of this year's meeting, and were appointed by **Dr. Benjamin E. Norfleet,** that society's president.

For the Auxiliary, **Mrs. William J. Reardon,** *Fairfax,* will be in charge of meeting plans. She was appointed by the Auxiliary president, **Mrs. Charles G. Smith,** *McLean.*



Skipper Weyl (front) and crew (behind him left to right): Dr. Harris, Dr. Burnett, Dr. Williams (top rear), Dr. Nemuth, Dr. Wootton.

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Transplant Gifts Lag in Virginia

THE article on page 354 of this issue on the Medical College of Virginia's heart transplant program emphasizes the astonishing advances in organ transplantation since its beginnings less than half a century ago. Today, transplantation is increasingly important therapy for many different types of patients; as a direct corollary, the need for donor tissue to meet these transplant needs is increasingly important.

In Virginia, organ donations have not kept pace with transplant needs. For instance, of the 103 kidneys transplanted at Virginia's four transplant centers in 1979, only 25 were donated by Virginians; all the rest had to be "imported."

There is no shortage of potential donors in the state, for surveys show that 50% of the Virginians queried were willing to donate organs after death. But how to sign up that potential? A lot of people are working at just that. All donor agencies have stepped up their procurement activities. Virginia legislators have helped by mandating the integration into the Virginia driver's license of the Uniform Organ Donor Card; and, lest this card go unnoticed, the face of the license has been redesigned to include an "organ donor" signal. Then there are the news media's dramatic transplant stories, which raise public consciousness and foster donations.

But it is the physician who holds a uniquely pivotal position in the procurement process. It is the physician to whom questions about donorship are most often directed. It is up to the attending physician, usually, to ask the next of kin to approve a

prospective donation. And it is the attending physician who, after certifying death, must notify the appropriate agency so that the donated organ can be properly removed. Gathered together for the Virginia physician's reference and published on pages 358-359 of this issue are all of Virginia's donor agencies. Keep this listing at hand in your office.

That anatomical assignments are honored is the concern of an Oklahoma physician, Dr. Mark R. Johnson. Dr. Johnson is Editor of the *Journal of the Oklahoma State Medical Association*; in an editorial in the September 1979 issue of that journal, he recommends registering organ donations in the patient's chart so emphatically that they will not be overlooked:

"Ask [your patients], without fail, if they have willed their eyes or kidneys or hearts or bodies to an organization of institution. If they have, record the details of their thoughtfulness and the fact of their posthumous gifts where it will not be overlooked. Encourage them to carry the information with their personal identification cards; suggest that they add the words "Organ Donor" or "Anatomical Assignments" to medical information tags, bracelets and other such devices. Also, make it policy to mark their records in some conspicuous way so that even a casual inspection will disclose this vital information. Printing the words "Organ Donor" or "Anatomical Assignments" on the inside of the front of the chart folder in bold, red letters will help prevent many unfortunate oversights. Writing the same words on the order sheet of a hospital record can also reduce the incidence of [oversights].

"Knowledge of anatomical assignments is important enough to be considered part of every patient's vital statistics. We must make it a part of every medical history. It is part of our obligations to our patients, our profession and our society." A. G.

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OFFICERS OF THE LINE

With a series of photographs of their presidents, VIRGINIA MEDICAL salutes the component medical societies, front line of organized medicine in Virginia.



Gathered together in the picture above are eight past presidents of the Mid-Tidewater Medical Society in Virginia's first congressional district. Seated, left to right, are Dr. Malcolm H. Harris, president in 1948 and again in 1979; Dr. William H. Hosfield, 1953; Dr. Arthur L. Van Name, Jr., 1945; and Dr. Raymond S. Brown, 1956. Standing, left to right, are Dr. H. Bland Hudgins, 1969; Dr. Harold William Felton, 1959 and 1977; Dr. Sterling N. Ransome, 1964; and Dr. Arthur J. Martin, 1952.

The 25 physicians who founded the Mid-Tidewater Medical Society in 1927 were all in general practice, for this component society encompasses the largely rural counties of Essex, Gloucester, King and Queen, King William, Mathews, Middlesex, New Kent and York. Over the years almost every member has taken his turn as president at least once, in what has always been more a discreet parcelling out of responsibility than a hot contest. Be not deceived, however, that this soft-shoe electoral process has led to slouchy leadership, for two Mid-Tidewater presidents have gone on to become President of The Medical Society of Virginia: the late Dr. Robley D. Bates, in 1934, and Dr. Raymond S. Brown, in 1976.

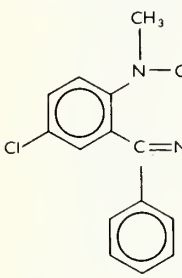
In the 1970s two new hospitals opened to serve the area, and the presidential pool was enlarged by ten new members. One of these is the 1980 president, Dr. Carl V. Yutzy. These new members have brought specialties other than general practice into the membership.

In Mid-Tidewater history, Dr. Malcolm H. Harris must be given a heroic place. One of the society's founding members and, at 84, the only one of them still alive, Dr. Harris was named secretary at the first election, in 1927, and for 50 years thereafter toiled faithfully in that office, through reams of minutes and miles of meeting agendas. His retirement in 1977 cast a pall over the membership's customary joviality, but spirits returned to normal when Dr. Arthur J. Martin agreed to carry on in what has come to be considered a permanent post. **A. G.**

Aspects of Management

What to tell your patients when you prescribe Valium® (diazepam/Roche)

Survey shows significant correlation between comprehension and compliance



A study of compliance patterns reveals that more than 6 out of 10 patients made errors in self-administration of prescribed medication, largely due to lack of comprehension.* Misunderstanding of directions resulted in discrepancies in dosage schedules as well as in length of therapy. Since evidence suggests that expanded verbal instructions may encourage compliance, the patient receiving Valium can benefit from your explanation of the dosage regimen, what response to expect from therapy and when to expect it.

What Valium (diazepam/Roche) can do

Your patients should know that 1) you are prescribing Valium as an adjunct to an overall program for the treatment of anxiety, and 2) Valium is given to relieve the symptoms of excessive anxiety and psychic tension while you help the patient to explore and deal with the underlying cause of his psychic tension.

Patients often interpret manifestations of anxiety, such as palpitations, hyperventilation, fatigue and muscle tension, as symptoms of a serious disease. However, when they learn that these symptoms can be relieved by Valium therapy, patients can more readily understand the psychosomatic origin of their symptoms and to accept the nonpharmacologic measures you may recommend.

The time you devote to these explanations can be a therapeutic measure in itself. Most anxious patients respond to and benefit from a frank discussion with an objective, sympathetic professional.

At the start of treatment, establishing therapeutic goals helps the patient to learn *what* to expect and *when* to expect it. Patients should also be informed that the medication will be gradually reduced and discontinued upon attainment of the therapeutic goal.

Tapering of dosage is rarely necessary in short-term therapy, but when consistently higher doses are used for extended periods, patients should know that the gradual reduction of medication will be implemented in order to avoid sudden recurrence of symptoms or possible withdrawal symptoms. Such recurrence is unlikely when the causes of the anxiety have been worked out satisfactorily within your overall treatment program.



What Valium (diazepam/Roche) can't do

It should be emphasized that there is no "magic" in any antianxiety tablet; that medication is not prescribed as a problem solver. Instead, Valium is being prescribed *as a temporary measure to relieve symptoms* generated by excessive anxiety and psychic tension.

* Boyd JR, *et al*: *Am J Hosp Pharm 31*: 485-491, May 1974

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety associated with anxiety disorders, transient situational disturbances and functional or organic disorders; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms, or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal, adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders; athetosis; stiff-man syndrome; convulsive disorders (not for sole therapy).
The effectiveness of Valium (diazepam/Roche) in long-term use, that is, more than 4 months, has not been assessed by systematic clinical studies. The physician should periodically reassess the usefulness of the drug for the individual patient.

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma, may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms similar to those with barbiturates and alcohol have been observed with abrupt discontinuation, usually limited to extended use and excessive doses. Infrequently, milder withdrawal symptoms have been reported following abrupt discontinuation of benzodiazepines after continuous use, generally at higher therapeutic levels, for at least several months. After extended therapy, gradually taper dosage. Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence.

***Usage in Pregnancy:* Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics,

LETTERS TO THE EDITOR

Thank You, Doctor Hurt

Though the passing years have cut me down to where I can get around only with the aid of a cane (and in addition a friend's arm at times), I am still reading what the journal has to say, and I appreciate your sending it to me.

With love, best wishes, and may the good Lord watch over and guide you.

George S. Hurt, MD

6910 Williamson Road, NW
Roanoke VA 24019

Editor's Note: Dr. Hurt, 90 years old, has been a member of The Medical Society of Virginia for 67 years. He was graduated in 1913 from the University College of Medicine (later merged with the Medical College of Virginia), in Richmond, and is now retired from the practice of obstetrics and gynecology.

A Far East Experience Makes a Deep Difference

Many American physicians are like buses that go right on past people who are waiting to get on. There is no room or time because they are too full of themselves. Being a physician who had been this way, it was my wife and I who had the joy of sharing our life with someone else in a remote place in Mati, Davao Oriental Mindanao, Philippines, which will make a difference in our lives for eternity.

We made a discovery that even a little while is worthwhile and can be of immense value. From the fond reception given us at Mati Baptist Hospital, we felt that the Lord had used us for a little while to make Jesus Chirst more real and worthwhile in their lives as well as ours during the Christmas season of 1979.

People who are confronted with disease, disability and death need the curing, caring and comforting hand of our Savior, who is the Great Physician. As an orthopedic surgeon, I was able to use my hands and technical "know how" in a practical "how to" way to share with the physicians at Mati. My wife helped with the morning devotions and the work of the chaplain in his daily ministry with patients.

As partners together with our Lord, we were both used in a small way to make a difference in that remote community. We made a discovery that the Lord can open your eyes and hearts to greater fields if you are willing to let Him use you whenever He calls or opens a door to be useful.

Thank you, Lord, for making a difference!

F. Ashton Carmines, MD

309 Main Street
Newport News VA 23601

Dialysis and Alcohol Don't Mix?

The hemodialysis unit at Petersburg General Hospital has been in operation for eight years, and 280 patients have been dialyzed. It has been noted by us that no patient on the dialysis service was admitted to Petersburg General because of an alcoholic problem. This is quite striking to the clinical observer as he makes rounds through the hospital, wherein 15% of

patients are admitted because of diseases due to ethanolism.

Patients on dialysis are under enormous duress from many angles, and one would expect them to imbide considerably. Yet of 40 patients now under dialysis therapy who had their alcholic habits reviewed by questionnaire, seven stated they had stopped drinking after starting hemodialysis; 21 never drank; and the remainder stopped long before starting dialysis. None admitted to beginning the habit after being started on dialysis. One teenage admitted to drinking beer on weekends.

To verify the above, 294 blood alcohol levels were run prior to each dialysis without the patients' knowledge. Of these, four were positive, and these were of minimal quantities, well below the standard set for inebriated driving. A review of the literature was carried out and only one article was found related to the subject; its authors were concerned with neurological findings associated with hemodialysis and alcoholism and noted that no patient accepted into their dialysis program became an alcoholic.

Many possibilities come to mind as to why patients with kidney disease do not drink. Patients most frequently stated, "It makes me sick" (nauseated). Should the above facts be confirmed, a new avenue of investigation will be opened in this perplexing problem.

The authors would appreciate any confirmation or negation of the above facts.

Milton Ende, MD
Rufus H. Warren, MD

121 South Market Street
Petersburg VA 23803



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Michael S. Weinstock, MD, Pediatrics, 8527 Monticello Ave., Alexandria VA 22308

Arlington County Medical Society

William W. Dodson, MD, Psychiatry, 2007 R. St., N.W., #304, Washington DC 20009

Bedford County Medical Society

Kerry Colston Woodroof, MD, Ophthalmology, 412 N. Bridge Street, Bedford VA 24523

Fairfax County Medical Society

Manuel Angoso, MD, Internal Medicine/Cardiology, 115 Park Ave., Falls Church VA 22046

Robert J. Brennan, MD, Obstetrics/Gynecology, 6828 Commerce St., Springfield VA 22150

Fred J. Payne , MD, Preventive Medicine, 4080 Chain Bridge Road, Fairfax VA 22030

Loudoun County Medical Society

George T. Hocker, MD, General Practice, 65 Gibson Street, #219, Leesburg VA 22075

Newport News Medical Society

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Leo Patrick O'Connell, MD, Diagnostic Radiology, 12420 Warwick Blvd., Newport News VA 23606

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Edward G. Haskell, Jr., MD, Family Practice, PO Box 1980, Norfolk VA 23501

Robert Tyler Jackson, MD, Otolaryngology, 901 Hampton Blvd., Norfolk VA 23507

William M. Miller , MD, Pathology, 1516 Saybrook Cove, Virginia Beach VA 23464

Prince William County Medical Society

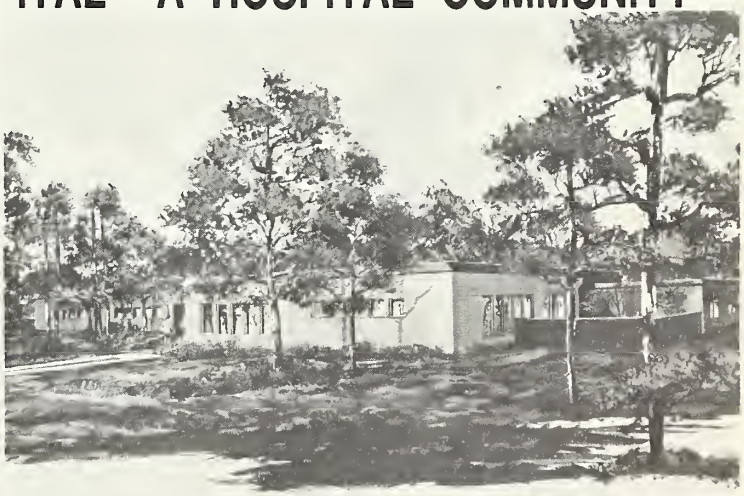
Wendy C. Ault, MD, Pediatrics, Quantico Naval Reserve Marine Corps, Quantico VA 22134

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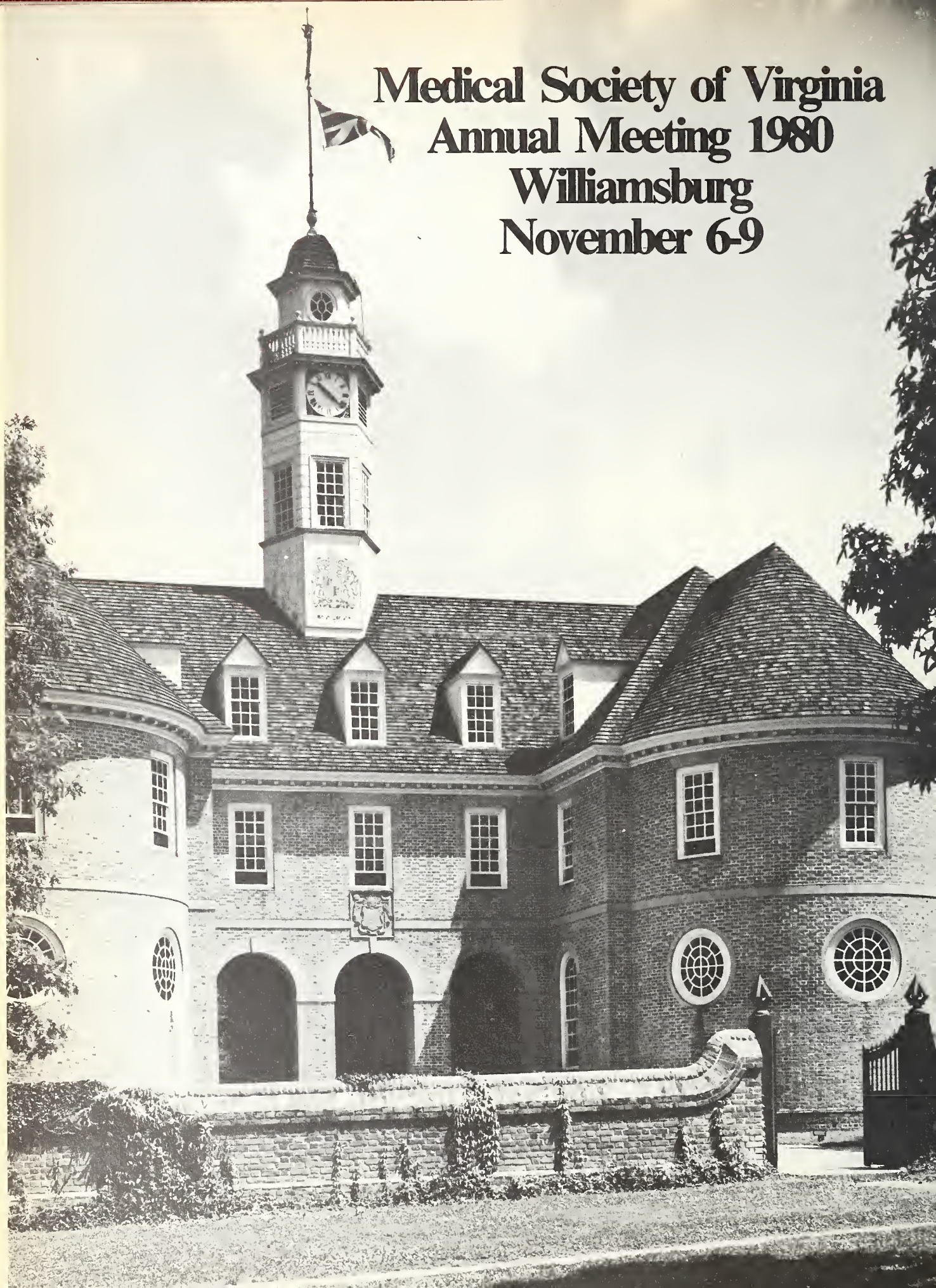


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Medical Society of Virginia
Annual Meeting 1980
Williamsburg
November 6-9



MEETINGS ABOUT MEDICINE

May 19-20
8th Annnual Hans Berger Day EEG Symposium (Medical College of Virginia), *Richmond.* Dept. of CME, Box 48, MCV Station, Richmond VA 23298, (804) 786-0496.

May 21-23
Current Trends in Respiratory Care (Virginia Society of Respiratory Therapy), Cavalier Hotel, *Virginia Beach.* Fee: members, $60, non-members, $65. Joseph DiPietro, Louise Obici Memorial Hospital, 1900 N. Main St., Suffolk VA 23434.

May 28-30
7th Annual Symposium on Recent Advances and Common Problems in Pediatrics (Children's Hospital National Medical Center/George Washington University Medical Center), *Washington, DC.* Lornice W. Greenberg, 111 Michigan Ave. NW, Washington DC 20010, (202) 745-5000.

June 1-7
6th Annual Family Medicine Review Course (University of Maryland School of Medicine), Annapolis Hilton, *Annapolis MD.* Betty Saar, (301) 528-3956.

June 5-6
First Annual Spring Symposium in Ophthalmology: Alternatives in Correcting Aphakia—Intraocular Lenses Vs. Extended Wear Contacts (Departments of Ophthalmology, Naval Regional Medical Center and Eastern Virginia Medical School), Sheraton Beach Inn, *Virginia Beach.* 12 hrs. Cat. I. Fee: $150 to physicians; $60 to residents/fellows/military. H. H. Weiler, MD, Box 96, Naval Regional Medical Center, Portsmouth VA 23708, (804) 397-6541, Ext. 862.

June 5-7
4th Annual Rehabilitation of the Traumatic Brain-Injured Adult (Medical College of Virginia), Fort Magruder Conference Center, *Williamsburg.* Cat. 1 credit applied for. Fee $175. Dept. of CME, Box 48, MCV Station, Richmond VA 23298, (804) 786-0494.

June 5-7
8th Biennial Cardiology Symposium (John Hopkins University), *Baltimore.* Cat. I credits. Program Coordinator, 720 Rutland Ave., Baltimore MD 21205, (301) 955-5880.

June 6-8
Cardiac Ischemia and Arrhythmias—Current Concepts for Diagnosis and Treatment (International Medical Education Corporation), Hospitality House, *Williamsburg.* 13 hrs. Cat. 1 AMA and ACEP; AAFP contact sponsor for details. Fee $215. IMEC, (800) 525-8646.

June 8-13
11th Family Medicine Review, Session III (University of Kentucky), Hyatt Regency Hotel, *Lexington KY.* Frank R. Lemon, MD, (606) 233-5161.

June 9-13 and **June 16-20**
Diagnostic Electromicroscopy: The Cell Biology of Disease (University of Maryland School of Medicine), *Baltimore MD.* Betty Saar, (301) 528-3956.

June 12-14
Selected Topics in Internal Medicine, Postgraduate (Medical College of Georgia), Holiday Inn, *Jekyll Island, Georgia.* Division of Continuing Educaton, Medical College of Georgia, Augusta, GA 30912.

June 12-15
Dermatology for Non-Dermatologists, 5th Annual Course (Duke University), *Asheville, North Carolina.* Cat. I and AAFP credits. Gerald S. Lazarus, Box 2987, Duke University Medical Center, Durham NC 27710, (919) 684-2504.

June 13-14
5th Annual Meeting of the Virginia Psychoanalytic Society, with Harold F. Searles, MD, lecturer, Hilton Inn, *Virginia Beach.* Terry C. Rodgers, MD, 330 W. Brambleton Ave., Norfolk VA 23510.

June 13-14
Cytology of the Female Genital Tract (American Cancer Society, American Society of Cytology, Charleston Area Medical Center), *Charleston, West Virginia.* Department of Pathology, Charleston Area Medical Center, Charleston WV 25325.

June 13-14
Annual Meeting, Virginia Society of Hematology, Cavalier Hotel, *Virginia Beach VA.* 7 hrs. Cat. 1. Registration Fee $8.00.

More meetings on the next page.

June 13-15
EKG Interpretation and Arrhythmia Management (International Medical Education Corporation), Pinehurst Country Club, *Pinehurst NC.* 15 hrs Cat. 1 AMA; AAFP contact sponsor for details; 13 hrs. Cat. 1 ACEP. Fee $215. IMEC (800) 525-8646.

June 15-17
Annual Meeting, American Diabetes Association, Sheraton-Park Hotel, *Washington DC.* American Diabetes Association, 600 Fifth Avenue, New York 10020.

June 18-21
4th Annual Virginia Beach Update in Neuroscience (Medical College of Virginia), Sheraton-Beach Inn, *Virginia Beach.* 16½ hrs Cat. 1 AMA; 1.6 C.E.U.'s; AAFP applied for. Kathy E. Johnson, Dept. of CME, Box 48, MCV Station, Richmond, VA 23298, (804) 786-0494.

June 19-22
Annual Meeting, Seaboard Medical Association of Virginia and North Carolina, Holiday Inn, *Kill Devil Hills, NC.* Mrs. Annette Boutwell, (919) 821-2226.

June 20-22
Coronary Disease, Exercise Testing and Cardiac Rehabilitation (International Medical Education Corporation), Inn on the Park, *Toronto, Canada.* 13 hrs Cat. 1 AMA, AAFP. Fee $215. IMEC, (800) 525-8646.

6th Annual
Family Medicine
Review Course
June 1-6, 1980
Annapolis Hilton Inn
Annapolis, Maryland

Sponsored by the
Department of Family Medicine
University of Maryland
School of Medicine
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This course is appropriate for physicians preparing for
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For further information contact the:



June 22-26
Contemporary Clinical Neurology (Vanderbilt School of Medicine), *Nashville, Tennessee.* 16 hrs. Cat. I. Marilyn Short, 3200 West End Ave., Nashville TN 37203, (615) 322-7311.

July 31-August 2
2nd Annual Sports Medicine Clinic (Medical College of Virginia), *Richmond.* Cat. I credits. Erma Blanchard, Dept. of CME, Box 48, MCV Station, Richmond VA 23298, (804) 786-0494.

SERIAL LEARNING PROGRAMS

Four one-week courses in medical radiation safety will be offered in June by the University of Virginia's Radiological Physics Division. The schedule:

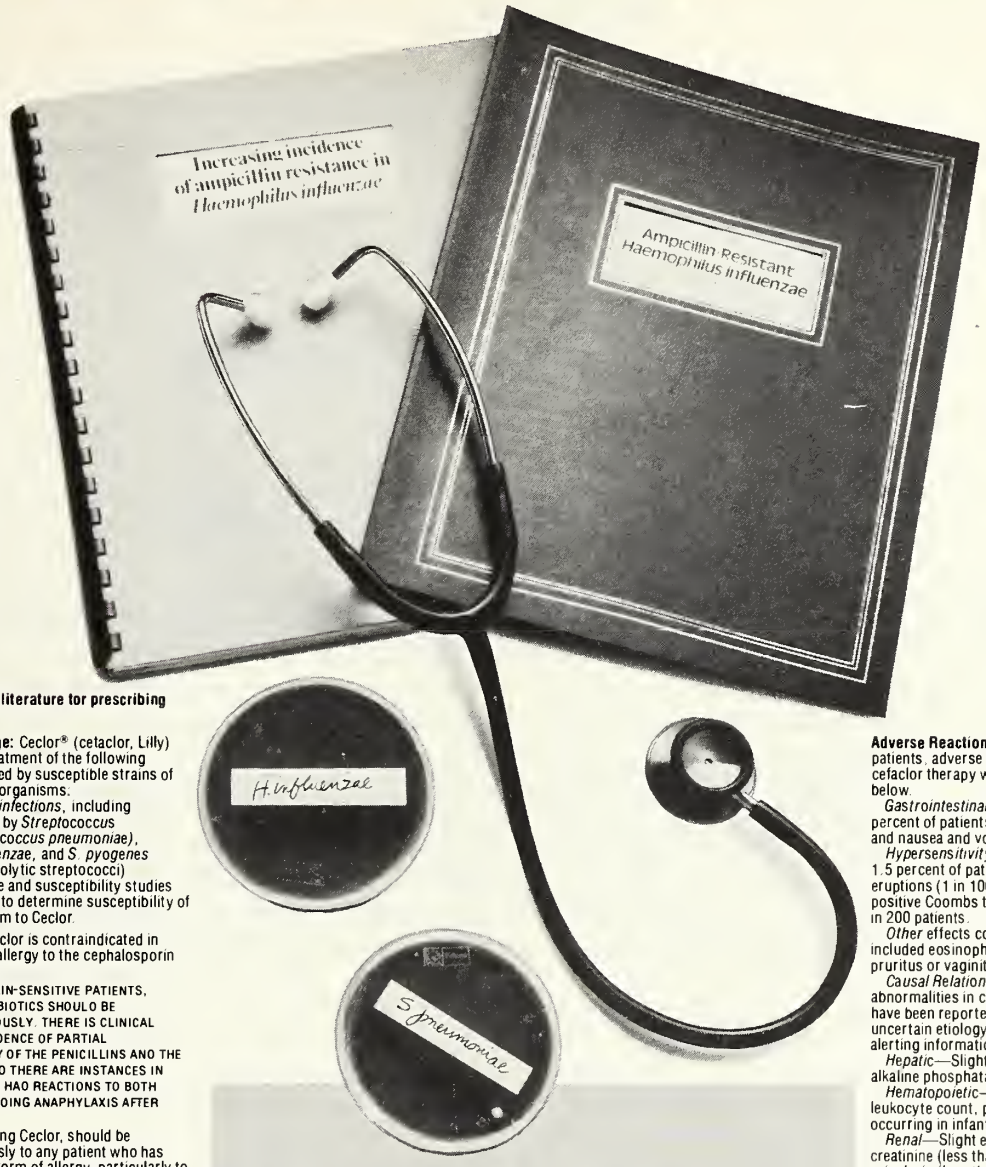
June 2-7 Basic Radiation Safety
June 9-14 Radiation Safety in Diagnostic Radiology
June 16-21 Radiation Safety in Nuclear Medicine
June 23-28 Radiation Safety in Radiotherapy

These courses are intended for those with at least two years of college experience, an associate degree, or two years of x-ray technology training. Participants may take a single course or any combination of the four. Tuition fee is $93 for each course. For further information contact Suresh K. Agarwal, PhD, Box 375, University of Virginia Medical Center, Charlottesville VA 22908.

Colby College in Waterville, Maine, has presented continuing medical education courses since 1945, building a national reputation for courses of quality in a pleasurable summer milieu. Physicians and their families are accommodated on campus, and tours, children's games and a lobster-clambake are offered. Enrollment is limited and reservations should be made early. The courses offered in 1980 are listed below; the hours shown are AMA Category I credits. For further information write to Robert H. Kany, Colby College, Waterville ME 04901, or call Sandy Stone, (207) 873-1131, ext. 267 or 251.

July 7-11	Obstetrics and Gynecology	18 hrs.
July 14-18	Pediatrics	16 hrs.
July 15-18	Surgical Techniques	16 hrs.
July 24-28	Dermatology for the Non-Dermatologist	16 hrs.
July 27-30	Neurosurgical Techniques	21 hrs.
August 3-7	Otolaryngology	18 hrs.
August 5-8	Epilepsy	18 hrs.
August 10-14	Ophthalmology	18 hrs.
August 17-21	Nuclear Medicine	28 hrs.
August 19-22	Medical and Surgical Emergencies	25 hrs.
August 24-27	Forensic Science	24 hrs.
August 24-28	Pulmonary Disease	21 hrs.

An added complication... in the treatment of bacterial bronchitis*



Some ampicillin-resistant strains of Haemophilus influenzae—a recognized complication of bacterial bronchitis*—are sensitive to treatment with Ceclor.[1-6]

In clinical trials, patients with bacterial bronchitis due to susceptible strains of Streptococcus pneumoniae, H. influenzae, S. pyogenes (group A beta-hemolytic streptococci), or multiple organisms achieved a satisfactory clinical response with Ceclor.[7]

Ceclor®
cefaclor
Pulvules®, 250 and 500 mg

Brief Summary.
Consult the package literature for prescribing information.

Indications and Usage: Ceclor® (cetaclor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms:

Lower respiratory infections, including pneumonia caused by *Streptococcus pneumoniae (Diplococcus pneumoniae)*, *Haemophilus influenzae*, and *S. pyogenes* (group A beta-hemolytic streptococci)

Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Ceclor.

Contraindication: Ceclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics.

Warnings: IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY. THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS TO BOTH DRUG CLASSES (INCLUDING ANAPHYLAXIS AFTER PARENTERAL USE).

Antibiotics, including Ceclor, should be administered cautiously to any patient who has demonstrated some form of allergy, particularly to drugs.

Precautions: If an allergic reaction to cefaclor occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e.g., pressor amines, antihistamines, or corticosteroids.

Prolonged use of cefaclor may result in the overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Positive direct Coombs tests have been reported during treatment with the cephalosporin antibiotics. In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs test may be due to the drug.

Ceclor should be administered with caution in the presence of markedly impaired renal function. Under such a condition, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended.

Usage in Pregnancy—Although no teratogenic or antifertility effects were seen in reproduction studies in mice and rats receiving up to 12 times the maximum human dose or in ferrets given three times the maximum human dose, the safety of this drug for use in human pregnancy has not been established. The benefits of the drug in pregnant women should be weighed against a possible risk to the fetus.

Usage in Infancy—Safety of this product for use in infants less than one month of age has not been established.

Adverse Reactions: In clinical studies in 1493 patients, adverse effects considered related to cefaclor therapy were uncommon and are listed below.

Gastrointestinal symptoms occurred in about 2.5 percent of patients and included diarrhea (1 in 70) and nausea and vomiting (1 in 90).

Hypersensitivity reactions were reported in about 1.5 percent of patients and included morbilliform eruptions (1 in 100). Pruritus, urticaria, and positive Coombs tests each occurred in less than 1 in 200 patients.

Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients).

Causal Relationship Uncertain—Transitory abnormalities in clinical laboratory tests results have been reported. Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician.

Hepatic—Slight elevations in SGOT, SGPT, or alkaline phosphatase values (1 in 40).

Hematopoietic—Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40).

Renal—Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200). [070379R]

* Many authorities attribute acute infectious exacerbation of chronic bronchitis to either *S. pneumoniae* or *H. influenzae*.[8]

Note: Ceclor® (cetaclor) is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients.

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information.

References

1. Antimicrob. Agents Chemother., *8*:91, 1975.
2. Antimicrob. Agents Chemother., *11*:470, 1977.
3. Antimicrob. Agents Chemother., *13*:584, 1978.
4. Antimicrob. Agents Chemother., *12*:490, 1977.
5. Current Chemotherapy (edited by W. Siegenthaler and R. Luthy), II: 880. Washington, D.C.: American Society for Microbiology, 1978.
6. Antimicrob. Agents Chemother., *13*:861, 1978.
7. Data on file, Eli Lilly and Company.
8. Principles and Practice of Infectious Diseases (edited by G.L. Mandell, R.G. Douglas, Jr., and J.E. Bennett), p. 487. New York: John Wiley & Sons, 1979.

Additional information available to the profession on request from Eli Lilly and Company, Indianapolis, Indiana 46285

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VIRGINIA
MEDICAL
MAY 1980

Cardiac Transplantation at the Medical College of Virginia

Andrea Hastillo, MD, Michael L. Hess, MD, Timothy Wolfgang, MD, and Richard R. Lower, MD, *Richmond, Virginia*

The world's second largest experience in orthotopic cardiac transplantation has been achieved at the Medical College of Virginia, where significant progress has been made in the refinement of surgical technique, use of immunosuppression, and treatment of post-transplant complications. The procedure may now be regarded with cautious optimism, according to the authors, who document the MCV experience and describe the criteria for heart transplant candidates.

THE Medical College of Virginia, Stanford University and the University of Capetown, South Africa, pioneered and developed the field of cardiac transplantation over the past ten years. To date, the Medical College of Virginia has the world's second largest experience with orthotopic cardiac transplantation and is continuing an active clinical and research program in the field of cardiac transplantation.

From the Cardiac Transplantation Program, Departments of Medicine (Cardiology) and Surgery, Medical College of Virginia/Virginia Commonwealth University. Address correspondence to Dr. Hastillo at Box 29, MCV Station, Richmond VA 23298.

This work was performed during the tenure of Dr. Hess as an Established Investigator of the American Heart Association and was supported in part by Grant RR00065-18 from the Clinical Research Center of the National Institutes of Health.

Submitted 1-2-80.

Within the last several years, advances in the fields of surgery and immunology have established the value of cardiac transplantation for the patient with irreversible myopathic disease, and this procedure may now be regarded with cautious optimism.[1] Although recent data demonstrates that the success of cardiac transplantation is now similar to that of kidney transplantation from unrelated donors,[2] acute cardiac graft rejection is, unlike renal transplantation, an irreversible, end-stage process making the risk of cardiac transplantation significantly greater. But awareness of the ultimate prognosis of patients with Class IV New York Heart Association failure has allowed this risk to become increasingly acceptable to a large number of patients and their physicians. This is especially true in Virginia, where

physicians have been able to observe more closely the values and limitations of the procedure. Both Stanford[3] and the Medical College of Virginia[4,5] have made significant progress in the refinement of surgical technique, the use of immunosuppression, and the treatment of post-transplant complications.

Prior to 1977, there were two major problems that limited the feasibility of cardiac transplantation: donor organ procurement and acute rejection.[4] An attempt to solve the problem of donor organ procurement by utilizing long-distance transportation has been developed at the Medical College of Virginia.[5] This procedure utilizes the national communications system of the Southeast Organ Procurement Organization and the laboratory finding that the isolated myocardium can be stored in 4° C saline for up to four hours and still maintain viability.[6]

When a patient is accepted for transplant, 54 transplant centers within 2-hours flying time of Richmond are notified of the need of a donor heart. The ABO-Rh system has been found to be adequate for tissue match. When an acceptable donor is located, the legal definition of brain death fulfilled, and the family's permission obtained, our surgical team flies to the donor hospital. Following removal of the donor heart, the operating room at MCV is notified to begin the procedure. Using this method of procurement, MCV has accumulated the largest experience in the world with long-distance transport. Waiting time for an acceptable donor has ranged from 1-42 days, with an average waiting period of 7-10 days. To date, 19 of these transported hearts have been transplanted, with a mean ischemic time of 3.3 hours, and all hearts have been successfully defibrillated without significant complications, although the patients may remain pacemaker-dependent for several weeks. With the enlarged donor pool, potential donors can be screened for underlying disease, the presence or absence of closed chest trauma, pharmacological and acid-base derangements, and overall stability of the cardiovascular system. Thus donor hearts can be more critically selected.

The second major advance to occur since 1977 is the use of antithymocyte globulin (ATG) and individual immunological monitoring.[6] Human ATG is the IgG or 7S immunoglobulin fraction of rabbit serum immunized by repeated injections of fresh human thymocyte tissue. The T lymphocyte, which comprises 70% of circulating mononuclear cells, has been identified as responsible for acute rejection, and ATG greatly reduces the number of circulating T cells. Use of ATG has significantly decreased the amount of azathioprine (Imuran®) and prednisone necessary to achieve adequate immunosuppression to protect the graft and therefore a decrease in infectious complications in the post-operative period. In the immediate postoperative period, each patient is monitored daily for total T-cell levels and percent T-level rosette formation.[7] The goal of therapy is to titrate ATG administration to maintain total T lymphocytes below 100 for 4-8 weeks.

This process of individual immunological monitoring and therapy has been one of the most important reasons for the decrease in the postoperative mortality of cardiac transplantation. The significance of these two advances can be seen when one compares pre-1977 results with post-1977 results.

The MCV Program

1968-1976

From May 1968 until March 1976, 13 orthotopic cardiac transplants were performed at the Medical College of Virginia. Of these 13 patients, there were 10 in-hospital deaths—a 77% mortality rate and a mean survival time of 46.4 ± 14 days. Of the three patients who survived, one patient died 6½ years after transplantation and a second died at 3 years post-transplantation. Both of these patients died of extensive, painless myocardial infarction, and in both, postmortem examination of the graft exhibited extensive and diffuse obstructive coronary artery disease. The remaining patient is alive and working at seven years.

1977-1979

Beginning in May 1977 two new variables were introduced: 1) long-distance transport of donor hearts and 2) the use of antithymocyte globulin.[7] Between May 1977 and December 1979, 19 patients underwent cardiac transplantation, with 18 orthotopic and one heterotopic transplant. Of these 19 patients, there were seven in-hospital deaths, for an early mortality of 36.8%, and a mean survival time of 29 ± 9 days. Of the remaining patients, 10 are alive and well at the time of this writing, for an 83% survival rate. Of these, three patients are 1, 2 and 4 months post-transplantation and the remaining seven are between 12 and 24 months post-transplantation. One patient died suddenly at home 3½ months post-transplantation, presumably of an arrhythmia. Another died at 21 months of an unknown cause.

Therefore, post-1977 survival data demonstrates that those patients who survive to leave the hospital exhibit an 89% 1-year survival rate; there has been one death during the second year. Thus it would appear that with the advancement of surgical techniques and care, the availability of distant ABO-Rh matched donors and of antithymocyte globulin, long-

Table 1. Cardiac Transplantation Program of the Medical College of Virginia, 1 July 1979 to 31 December 1979.

Total patients referred for transplantation	38[1]
Patients died awaiting transfer to MCV	9
Patients determined to be Class II-III NYHA prior to transfer[2]	9
Patients evaluated at MCV	10
Patients rejected	5
Class II-III NYHA[2]	3
Psychiatric reasons	1
Change of mind (patient died in two weeks)	1
Patients accepted for transplant	5
Patient died while awaiting donor	1
Patients transplanted	4
Patients awaiting evaluation	10

1. Fifteen of these patients were Virginia residents.
2. Criterion for transplant is Class IV NYHA.

term survival of cardiac transplantation is the rule rather than the exception for those who survive the first 2 months.

Of the seven long-term survivors (greater than 1 year), two patients have become part of the Veterans Administration system. They have moved to the western United States and are reported to be New York Heart Association functional Class I-II, but are not available for routine followup. Of the five remaining 1-year survivors, all are functional Class I-II. All five demonstrate normal cardiac graft function as judged by Holter monitor, gated pool scan and M-mode, and two-dimensional echocardiographic studies, which demonstrate normal valve motion and no significant wall motion abnormalities. These patients are being maintained on azathioprine and prednisone with average daily doses of 150 mg and 30 mg respectively. Although all patients demonstrate a cushingoid appearance, there have been no significant complications of immunosuppression in these patients.

The figures in Table 1, giving clinical data for the last half of 1979, indicate the tremendous recent acceleration of the MCV heart transplant program.

Criteria

Given the optimistic results of the last 2½ years' experience in cardiac transplantation at the Medical College of Virginia, we are continuing to pursue an active transplant program. The following criteria have been set for consideration of cardiac transplantation:

1. The cardiac transplantation program at MCV will accept patients who have Class IV heart failure despite maximal medical therapy and who are not candidates for surgery other than transplantation. It is our philosophy that the patient is best evaluated at home and that the referring physician, in consultation with the cardiologist at MCV, is responsible for insuring that all criteria are fulfilled. Except under very unusual circumstances, MCV will accept only one transplant candidate at a time. It is the responsibility of the referring internist or cardiologist to document objectively these criteria, including cardiac catheterization with complete right and left heart studies, coronary arteriography to define the origin of the coronary arteries and the calculation of cardiac index, ejection fraction and pulmonary vascular resistance.

2. Patients will be brought to MCV for evaluation on a first-come, first-served basis. This has resulted in a lengthy waiting list averaging 10-14 weeks at present; all referring physicians are urged to inquire into other transplant programs.

3. It is the responsibility of the referring physician to arrange transportation to Richmond. The patient should be aware that he or she is being admitted for evaluation only and has no guaranteed acceptance as a transplant candidate.

4. It is the responsibility of the referring physician to insure that the patient is properly educated as to the risk (40% operative mortality), the long-term prognosis (no patient in the world's literature has survived more than 10 years), and the implications of long-term azathioprine and prednisone therapy. Although there are no cases of immunosuppression-induced malignancy in the MCV experience, the Stanford group reports that the younger patient (less than age 40) with idiopathic cardiomyopathy appears to incur an increased incidence of malignancy[10].

5. Upon request and prior to scheduling the evaluation, the following information should be sent to MCV:

   a. Discharge summaries of all recent and other pertinent admissions.
   b. The results and films of all recent cardiac catheterizations.
   c. Copies or reports of recent echocardiograms, gated pool scans and other non-invasive data.
   d. A complete problem list of other disease and a complete medication list must accompany the patient at the time of transfer.

3. The patient and family must realize that the computer-assisted long-distance organ procurement program permits only 4-8 hours of advance notice prior to surgery.

Contraindications to cardiac transplantation include:

1. Unstable psychiatric status.

2. The presence of a focus for sepsis, including teeth.

3. The presence of any other terminal illness.

4. Age over 50 years. Both the Stanford[2] and MCV program have experienced poor results with patients over the age of 50. This contributes to an increase in the adverse effects of steroids and immunosuppression and emergence of underlying disease not previously detected.

5. Recent pulmonary emboli. The presence of recent pulmonary emboli serves both as a potential source of infection and as a cause of an increase in pulmonary vascular resistance and right ventricular afterload, which makes a high contribution to early postoperative mortality.

6. Insulin-dependent diabetes is a relative contraindication due to prolonged post-transplant steroid therapy and accelerated atherosclerosis.

7. Diffuse peripheral vascular disease is also a relative contraindication.

After review by the cardiologists and psychiatrists, the patient may be accepted. The process to locate a donor heart is then begun.

The mean duration of hospitalization following transplantation is 3 months. Following discharge, the referring physician is responsible for the patient's weekly and then bi-weekly EKGs, CBC, differential and platelet determination. The referring physician will be responsible for the patient's medical problems; if rejection is suspected, however, the patient is referred back to MCV.

Following transplantion, the patients are readmitted to the Clinical Research Center at 6- to 8-month intervals for continued evaluation of the patient and the transplanted heart. This is a non-invasive evaluation of graft function; however, if indicated, cardiac catheterization and/or endomyocardial biopsy will be performed.

Total cost for a successful, "uncomplicated" procedure in 1979 was $39,000 for a 90-day hospitalization. The breakdown on this cost is as follows: 1) Cardiologist and surgeons do not charge for their services. 2) Prior to formal acceptance into the program, the patient is provided standard care for severe heart failure and is billed by the hospital. 3) At the time of acceptance into the program and if stable, the patient is transferred to the Clinical Research Center and then leaves the standard billing process. 4) Operating room charges and postoperative intensive care are considered standard charges and are billed accordingly. 5) When stabilized, the patient is re-transferred to the Clinical Research Unit for the remainder of the hospitalization. 6) It must be emphasized that if the patient develops significant post-operative complications, the patient will be transferred to the appropriate medical and/or surgical service for management and therapy and, therefore re-enters the billing process. 7) Utilizing the protocol, the total cost to the patient and/or insurance company is approximately $14,000, a figure comparable to combined medical/surgical management of coronary artery and/or valvular heart disease.

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Virginia's Donor Agencies: What They Do, Where They Are

Heart

Medical College of Virginia Transplant Program, Box 499, MCV Station, Richmond VA 23298. Office: (804) 786-0465. Or call (804) 786-5321 any hour of the day or night. Herb Teachey and Ann Martin, RN, Coordinators.

There are four medical centers in Virginia at which organs are transplanted—the University of Virginia, Medical College of Virginia, McGuire's Veterans Administration Hospital, and Norfolk General Hospital, but only at the Medical College of Virginia are heart transplants performed.

For details of how donor hearts are acquired, see the medical article by four MCV cardiologists immediately preceding these pages. The authors also set forth the criteria for cardiac transplantation.

Kidney

University of Virginia Transplant Program, Box 447, University of Virginia Medical Center, Charlottesville VA 22908. Office: (804) 924-5609. Or call (804) 924-2754 any hour of the day or night. Clarence White, Coordinator.

Eastern Virginia Transplant Program, Norfolk General Hospital, 600 Gresham Drive, Norfolk VA 23507, (804) 628-3906 any hour of the day or night. Bill Anderson, Coordinator.

Medical College of Virginia Transplant Program, Box 499, MCV Station, Richmond VA 23298. Office: (804) 786-0465. Or call (804) 786-5321 any hour of the day or night. Bill Teachey and Ann Martin, RN, Coordinators.

Virginia Organ Procurement Agency, 2728 Colonial Avenue SW, Roanoke VA 24015, (703) 345-4181 any hour of the day or night. Ritt Strachan, Coordinator.

Virginia's kidney transplant program has accelerated astonishingly in the recent past, due not only to the increased sophistication of screening and management techniques but to the fact that the cost of kidney transplantation is now underwritten entirely by the Social Security Administration. So considerable are these expenditures that a federal agency, the End-Stage Renal Disease Network Coordinating Council of the Virginias, has been set up in Richmond to monitor them.

The most suitable kidney donors are persons who have suffered cerebral vascular accidents, primary brain tumors, or brain injuries through trauma, ischemia, or drug overdose. When an attending physician calls any of the transplant programs about a possible kidney donor, the coordinator asks first for a medical history. If the prospective donor meets certain criteria, a blood sample is requested so that the donor's tissue can be matched with those of patients in need of a transplant. Regardless of type, however, all kidneys are accepted; rarely, there is no compatible recipient in Virginia, in which case the kidney is offered for transplant elsewhere.

When all conditions are "go", the transplant program is prepared to send a skilled team to the hospital to perform the nephrectomy. If the hospital is some distance away, the crew can be flown in, along with the perfusion machine that keeps kidneys in good condition for up to 24 hours.

All the programs listed above will see to it that eye and skin banks are properly notified if eyes and skin are also donated.

Eyes

Eye Bank of Virginia, PO Box 1772, Roanoke VA 24008. Day: (703) 345-8823. Night: (703) 344-2071. Everett L. Franklin, Executive Director.

Old Dominion Eye Bank, 1001 East Marshall Street, Richmond VA 23219, call (804) 648-0890 any hour of the day or night. R. Kenneth Hudgins, Executive Director.

Lions Eye Bank & Research Center of Eastern Virginia, Royster Hall, Medical Center Hospitals, 600 Gresham Drive, Norfolk VA 23507, call (804) 628-EYES any hour of the day or night. Roxann Crocco, Administrator.

Eye banks were the first organ donor agencies. Partly because of their pioneering and partly because of the active support given them by Lions Clubs over the county, eye banks are probably the best known and

utilized of the organ donor agencies. Over 100,000 Virginians have pledged their eyes to Virginia's eye banks. Even so, at any given time about 50 Virginians are waiting for corneas that meet their specific needs.

Criteria for eye donorship are relatively few. Once it is established that a prospective donor meets them, the Eye Bank will send a doctor or technician to remove the eyes and transport them to the bank. Eyes must be removed 4-6 hours after death, and it is preferable that they be removed even sooner. They can be stored for 4-5 days. Research into banking eyes by freezing is going on; so far, the thawing process has proved too tricky to permit freezing as a routine storage method.

Skin

Medical College of Virginia Skin Bank, Box 661, MCV Station, Richmond VA 23298, (804) 786-9299. B. W. Haynes, MD, Director.

University of Virginia Skin Bank, University of Virginia Medical Center, Charlottesville VA 22908. Day: (804) 924-2126. Night: (804) 924-5520. George Rodeheaver, PhD, and Richard Edlich, MD, Co-Directors.

To the laity, skin transplants don't have the drama that eye, kidney, and heart transplants do, and donations of skin are hard to come by. That's a pity, for skin transplants are often life-saving. Donated skin is used to cover badly burned patients, and although the donated skin is eventually rejected by the patient's immune system, the skin provides temporary protection against infection and performs other skin functions, such as heat regulation and fluid retention, until additional transplants can be made from the patient's own body.

Donor skin remains viable for about 12 hours after death. A .4-mm thickness is harvested, placed in appropriate fluid and then frozen under liquid nitrogen at 180 degrees, in which state it will keep for six months or longer. The best donor is a young adult who is dying as a result of injury and is free of skin disease and of such infectious diseases as hepatitis.

The need for donor skin is usually greater during the winter months, because of fires due to heating equipment, but a summer boat explosion, in which a group of persons suffers bad burns, can create a critical need for donor skin. At the Medical College of Virginia, Dr. Haynes uses the harvest from about 15 skin donors a year and could use 25 or 30 more. All donations for the MCV Skin Bank are procured at the MCV Hospitals, but at the University of Virginia, a team of technicians is on call to travel to any locale within a 100-mile radius of Charlottesville to harvest donated skin. The system was established recently by Dr. Edlich and Dr. Rodeheaver, who train the emissaries and supervise them.

Dr. Haynes and Dr. Edlich head their universities' Burn Units and thus direct also the associated skin banks. They work together, sharing banked skin as needs arise.

Body

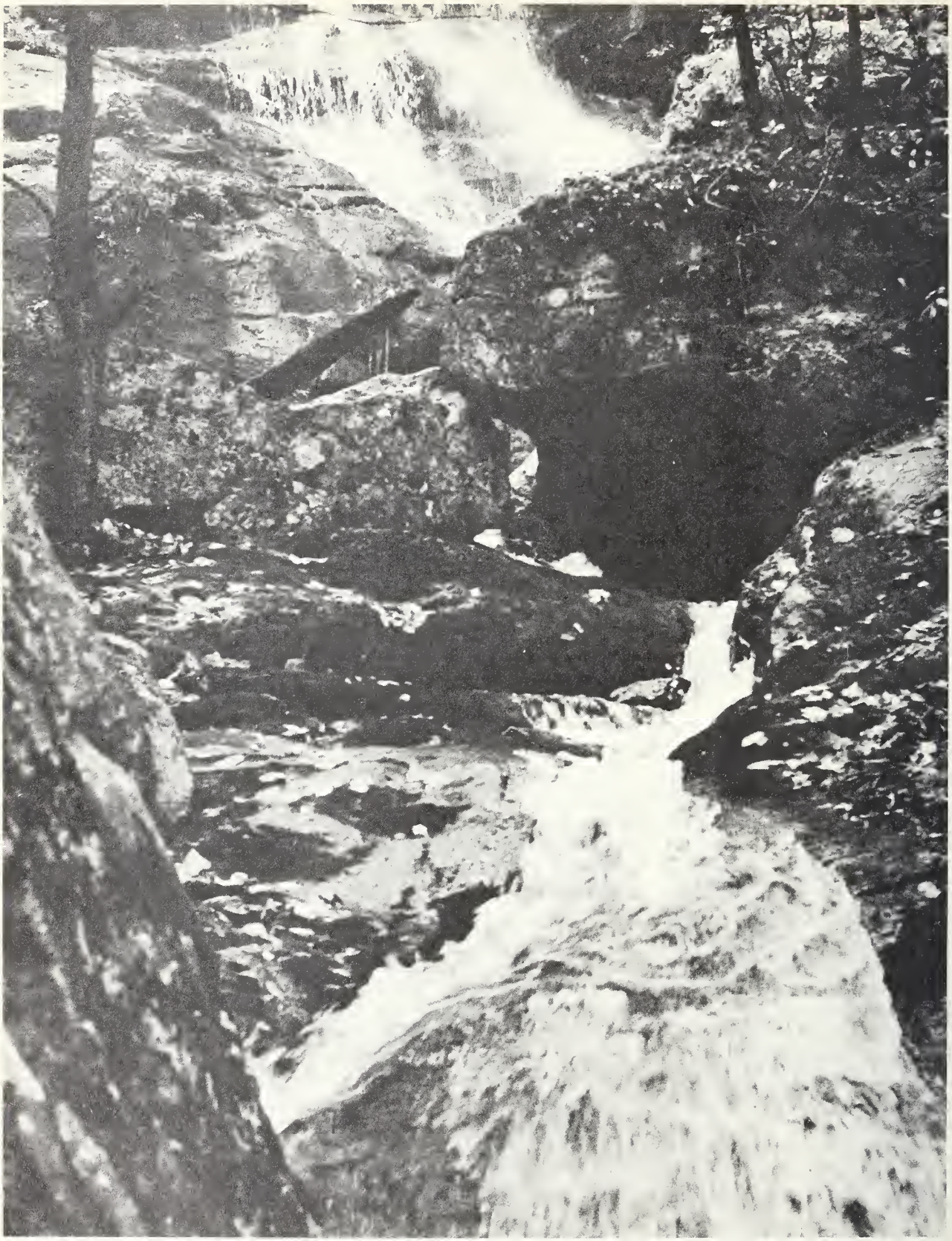
Anatomical Program, Virginia Department of Health, Office of the Chief Medical Examiner, David K. Weicking, MD, 9 North 14th Street, Richmond VA 23219, (804) 786-2479.

The ultimate donation is the gift of one's body, for medical education and scientific study. Body donations do not preclude donation of specific organs for transplant, such as eyes or kidneys. As with organ donation, the surviving spouse or next of kin carries out the decedent's donation, and the Medical Examiner's office will see to the collection and transport of the donated body within the state.

Once this program received many "unclaimed" bodies, relinquished by families too poor to pay for burial; as recently as 1970, for instance, about 200 of these unclaimed bodies were received by the Anatomical Program and only ten bodies were donated. Then welfare and other governmental systems began doling out money for funerals and graves, and the supply of cadavers became critically short. But again there was a sharp change, occasioned, it is thought, by changing attitudes to what has been called "the American way of death", and in 1979 the Anatomical Program received 165 donated bodies. To these were added about 50 bodies of the unclaimed category, the total providing once again a sufficiency for the needs of Virginia's three medical schools, although the supply is never abundant. A.G.

Nation's Transplant Data Centered in Virginia

The matching of organs for all transplant requests in the United States will soon be done in Virginia, when all of the country's computer centers registering available organs and transplant needs are merged into the South-Eastern Organ Procurement Foundation in Richmond. Founded in 1969 by the late Dr. David M. Hume, Medical College of Virginia surgeon who pioneered in kidney transplantation, and Dr. D. Bernard Amos, immunologist at Duke University Medical School, the Foundation is now an independent, non-profit organization. To handle the entire nation's transplant data, a highly sophisticated computer has been installed on its Richmond premises, with a full-time operator; it will soon be programmed into 135 transplant centers in 42 states.



One of the five cascades at Crabtree Falls in northwestern Virginia's George Washington National Forest.
Photograph by Marsha Blakemore for the Richmond Times-Dispatch.

Diagnosing Viral and Chlamydial Infections By Cell Culture

Lawrence J. Eron, MD, and Brenda Brumback, BS, *Fairfax, Virginia*

The authors describe a cell culture technique that yields rapid, accurate diagnoses of viral and chlamydial infections, permitting the clinician to proceed swiftly with therapy, and document a 13% rate of positive cultures in 3,211 specimens.

INFECTIONS due to viruses and *Chlamydia* bacteria, which are close relatives of free-living bacteria, have little in common except for the misery they produce and the difficulties they pose in diagnosis. Serologic tests have been used in the past with some success, but the basic problem is that the diagnostic rise in antibody titer is not detected for several weeks, by which time the patient is convalescing. Attempts to culture viruses and chlamydiae have been frustrated by their inability to grow on any type of artificial medium. Neither viruses nor chlamydiae are capable of producing energy, and replication of nucleic acids and protein synthesis are possible only within living cells. To circumvent this problem, chlamydiae and viruses are cultured in monolayers of cultivated cells. After a suitable incubation period, cells are observed for morphologic changes (called cytopathic effect) due to virus infection or for intracytoplasmic inclusions due to chlamydial infection. We report here the use of such techniques in the diagnosis of acute viral and chlamydial infections.

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The material in this article was presented by Dr. Eron as a scientific exhibit at the Annual Meeting of The Medical Society of Virginia at the Homestead, Hot Springs, November 1-4, 1979, and was awarded a prize for merit.

Submitted 2-5-80.

Materials and Methods

Specimen Collection and Transport

Urine, cerebrospinal fluid and other "sterile" body fluids were collected in sterile containers. All other specimens, including swab specimens, feces, skin scrapings and tissue, were placed in a vial of medium specific for transport of viruses or chlamydiae as soon as they were collected. This transport medium was supplied to physicians by the virology laboratory. All specimens were packed on wet ice in styrofoam containers and delivered by courier to the laboratory as quickly as possible. Specimens were cultured immediately upon receipt, since rapid transport and processing is imperative to maintain the viability of the organisms.

Culture Procedure for Chlamydiae

Specimens for *Chlamydia* culture were inoculated by centrifugation onto several monolayers of IUdR (5-iodo-2-deoxyuridine) pretreated McCoy cells (mouse heteroploid line) according to the method of Wentworth and Alexander.[1] Cells were obtained

from M.O. Beem and E.M. Saxon, University of Chicago. IUdR was obtained from Smith, Kline and French Laboratories, Philadelphia. Cells were overlaid with Eagle's Minimum Essential Medium with Earle's salts supplemented with L-glutamine, gentamicin, vancomycin, fetal bovine serum, additional glucose and Hepes buffer.[1]

After inoculation the monolayers were incubated at 35°C for 48 to 72 hours and stained with iodine.[1] A culture was considered positive when distinctive intracytoplasmic inclusions, stained brown with iodine, were observed. Demonstration of these inclusions also identified the organism as *Chlamydia trachomatis*, since inclusions of the second species of chlamydiae, *Chlamydia psittaci* (psittacosis agent), do not stain brown with iodine.

Culture Procedure for Viruses

Specimens for virus culture were inoculated onto four or more monolayers of the following cell types: Flow-2000, a human fetal lung cell line; HFS-15, a human foreskin line; Hep-2, a malignant line derived from a carcinoma of the larynx; HEK, primary human embryonic kidney; Vero, a transformed line derived from the kidney of an African green monkey; primary African green monkey kidney cells and primary rhesus or cynomolgus monkey kidney cells. Flow 2000, Hep-2 and African green cells were obtained from Flow Laboratories, Inc., Rockville, Maryland. HFS-15 and Vero cells were obtained from HEM Research, Inc., Rockville. Primary HEK, rhesus and cynomolgus cells were received from MA Bioproducts, Inc. (Microbiological Associates), Bethesda, Maryland. Some specimens were inoculated into 10- to 12-day old chicken embryos and suckling mice for additional testing, but most virus isolates were obtained from cell culture.

Primary monkey kidney lines were overlaid with Eagle's Minimum Essential Medium with Earle's salts supplemented with L-glutamine and gentamicin and incubated stationary at 33°C. Other cell lines were overlaid with the same medium, to which fetal bovine serum had been added, and incubated stationary at 37°C. For respiratory specimens, the HFS-15 line was incubated at 33°C on a roller drum.

The indirect immunoperoxidase stain (IIP) was performed according to the method of Gerna et al.[2] Hemadsorption was performed as described previously.[3]

Results

Specimens were received for culture of viruses and chlamydiae from hospitals, clinics and private physicians in Virginia, the District of Columbia, Maryland and Pennsylvania. Approximately 80% of patients cultured were hospitalized; the remaining 20% were outpatients. Age and severity of illness varied, since specimens were submitted by physicians practicing in a number of different clinical situations.

The diagnosis of *Chlamydia* infections was performed by inoculating specimens onto cell monolayers which were then stained with iodine at 24 and 48 hours after infections. The stain is necessary to iden tify the inclusions pathognomonic of chlamydiae, as the organism does not produce morphologic changes in cells. Following penetration of the infectious "elementary body" into the cell, the *Chlamydia* reorganizes into the reproductive form, called the initial body (Figs. 1A, 1B, 1C), then multiplies and collects within cells. By 48 hours after infection, it matures into the infectious form, the elementary body; after 72 hours, infectious elementary bodies are released by host cell rupture.

Virus infection of the cell monolayer is usually manifested by altered cell morphology termed cytopathic effect or "CPE". Infected cells may become rounded and refractile, as in an adenovirus infection of Hep-2 cells; Herpes simplex infection, on the other hand, produces a "ballooning degeneration" of Hep-2 cells (Figs. 2A and 2B). In Figure 3A, special stains reveal the multi-nucleate giant cells formed by herpes simplex virus. The type of CPE produced by a virus, as well as the range of cell types susceptible to infection, suggests the identity of the virus. The presumptive identity is then confirmed by one of a number of immunologic methods, such as immunoperoxidase staining or neutralization of CPE by specific antibody.

The indirect immunoperoxidase stain is extensively employed in our laboratory for virus confirmation because of its speed and accuracy. In this procedure, antibody to the presumptive virus is adsorbed to the infected monolayer, which binds homologous viral antibody. Unadsorbed antibody is then eluted. Anti-gamma globulin antibody, which is conjugated to horseradish peroxidase, is then added and binds to any anti-viral antibody previously adsorbed to the cell monolayer. When 3-3'-diaminobenzidine and hydrogen peroxide are added, oxidation of the benzidine by peroxidase causes formation of a brown precipitate at the site of virus antigen in infected cells. This procedure identifies the virus infecting the cell because only specific (homologous) antibody will bind the virus antigen. Figure 3C shows a positive IIP stain of Vero cells infected with herpes simplex virus. Uninfected cells or cells infected with another virus do not stain (Fig 3B).



Fig. 1A. Iodine-stained McCoy cells 24 hours after infection with chlamydiae. (×80)

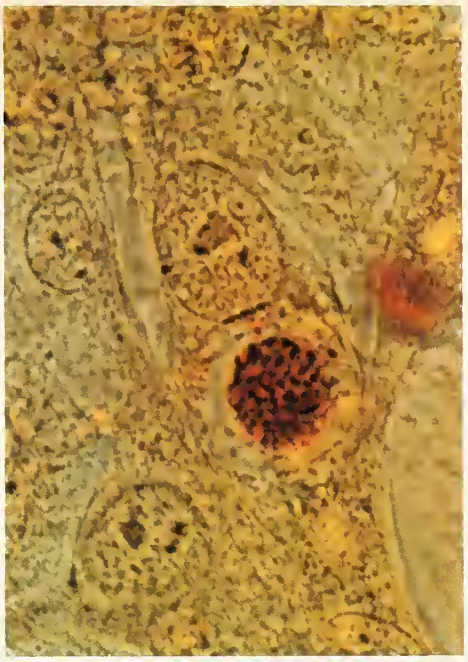


Fig. 1B. Highpower view of Figure 1, showing initial body stained red-brown. (×320)



Fig. 1C. For comparison, uninfected McCoy cells stained with iodine. (×80)

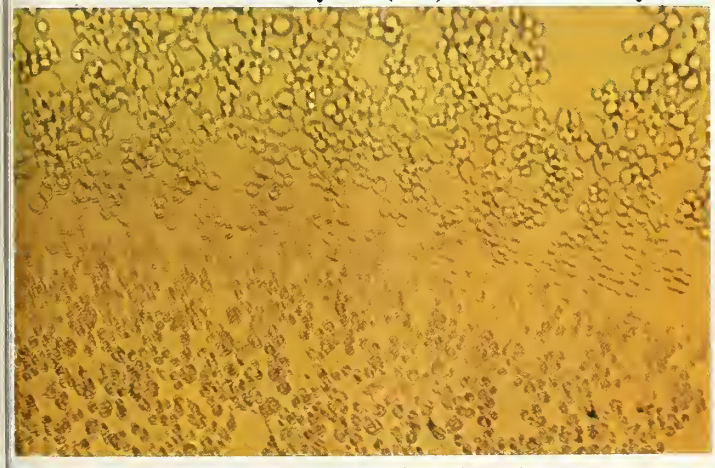


Fig. 2A. Hep-2 cells two days after infection with herpes simplex virus. (×100)



Fig. 2B. For comparison, this view of an uninfected Hep-2 cell monolayer. (×100)



Fig. 3A. Vero cells H&E-stained 2 days after infection with herpes simplex virus. (×1000)



Fig. 3B. For comparison, uninfected Vero cells stained with H&E. (×1000)

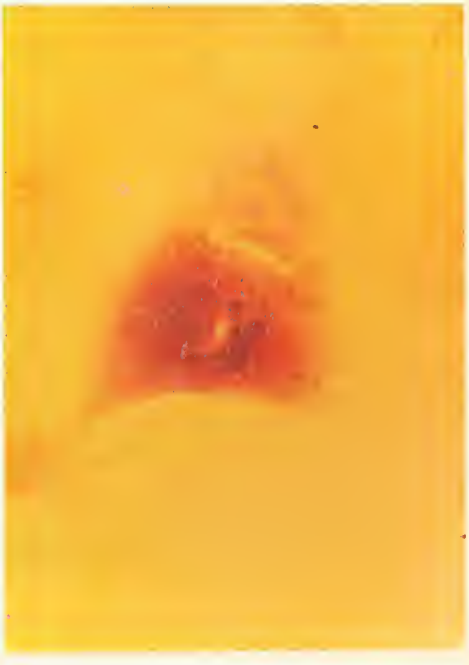


Fig. 3C. Immunoperoxidase stain of Vero cell infected with herpes simplex virus. (×1000)

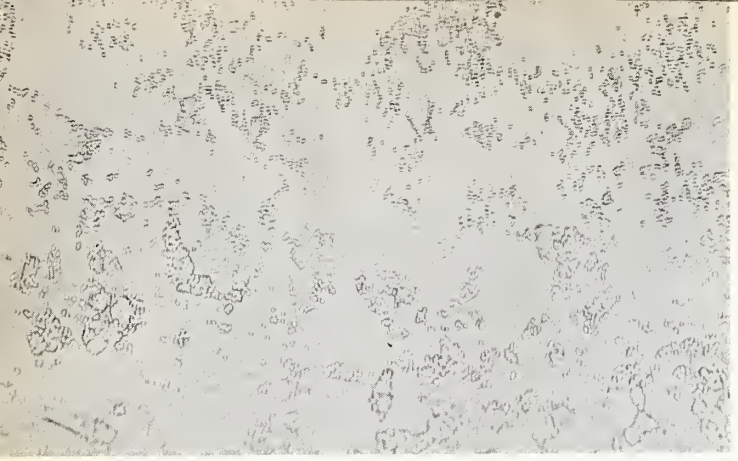


Fig. 4A. Rhesus monkey kidney cells, four days after infection with influenza virus, have adsorbed guinea pig red blood cells (X100).



Fig. 4B. Uninfected Rhesus monkey kidney cells treated with, but failing to adsorb, guinea pig red blood cells (X100).

Several viruses will infect and replicate in cell monolayers without producing CPE. The presence of these viruses must be determined by indirect means. For example, while influenza virus infection of primary monkey kidney cells does not noticeably alter cell morphology, the infected cell membrane acquires the ability to adsorb red blood cells. When a suspension of guinea pig red blood cells is added to the infected cell monolayer, they will clump and adhere to the cell monolayer. This phenomenon called hemadsorption, is demonstrated in Figure 4.

Since we began performing virus culture in January 1977, a total of 3211, specimens have been processed. Of these, 428 have yielded positive isolates for an overall positive rate of slightly more than 13%. During the first six months of operation the isolation rate was about 9%. This figure has gradually increased and is now averaging 20%. The predominant virus isolated has been herpes simplex (Table 1). Most isolates are from genital lesions. However, herpes simplex has also been obtained from sources such as the throat (pharyngitis), eye (conjunctivitis), cerebrospinal fluid (aseptic meningitis) and brain (encephalitis). Other viruses recovered are shown in Table 1. The breakdown and analysis of these data will be the subject of a future report in preparation by the authors.

We have only recently begun *Chlamydia* culture and do not have sufficient data to report at this time. We have, however, isolated chlamydiae from several neonates with pneumonia as well as one with conjunctivitis.

Discussion

Chlamydiae, close relatives of bacteria, are now recognized as causing a wide variety of diseases, including non-gonococcal urethritis and epidydimitis in males, salpingitis and cervicitis in females, pneumonitis and conjunctivitis in infants, trachoma (a leading cause of blindness in underdeveloped countries), and psittacosis.[4] Viruses similarly cause a wide spectrum of diseases, including respiratory, gastrointestinal, neurological, genitourinary, ocular, cardiac, and possibly diabetes mellitus, neoplastic, autoimmune, and degenerative diseases.

Until recently, diagnosis of viral and chlamydial infections has been limited to serologic tests. Confirmation of an acute infection is usually based retrospectively on a 4-fold or greater rise in antibody titer from the acute to the convalescent phase of illness. By this time the patient has either recovered from or succumbed to his illness, and only the epidemiologist is interested. The performance of serologic tests requires a wide battery of antigens, since a separate test must be performed for each virus serotype. Moreover, most chlamydial infections (and some viral infections) do not produce significant rises in complement fixation antibody titers, in which case the test is of no use at all.[4]

Culture techniques obviate these difficulties and allow the rapid diagnosis of these infections, during

Table 1. Viruses Identified by Cell Culture

Herpes simplex virus	294
Echovirus	47
Adenovirus	27
Coxsackie B virus	20
Cytomegalovirus	14
Rubella virus	6
Varicella zoster virus	5
Coxsackie A virus	5
Influenza virus	3
Polio virus	3
Mumps virus	2
Respiratory syncytial virus	1
Papova virus	1

the acute illness. Chlamydiae produce inclusions within cells that are easily identified by staining with iodine. Viruses alter morphology of cells, and from the pattern of cytopathic effect as well as by immunoperoxidase staining and hemadsorption testing, the virus type can be deduced. Most *Chlamydia* and many virus cultures are positive within three days. Only the slow growing cytomegalovirus routinely takes several weeks to produce cytopathic effects.

For the last three years, we have cultured viruses from 428 of 3,211 specimens, a 13% rate of positive cultures. Our high isolation rate of herpes simplex virus may reflect a greater concern with accurate diagnosis of this virus due to the availability of antiviral agents active against herpes, including adenine arabinoside (Ara-A or Vira-A),[5] 2-deoxy-D-glucose,[6] and L-lysine.[7] Amantadine (Symmetrel®) is now recognized as effective in treating, as well as in prophylaxing against, influenza.[8] The availability of this anti-influenza agent should result in an increase in specimens submitted from patients with respiratory disease when we are faced with the next influenza epidemic. As more antiviral agents are developed and made available to physicians, virus culture will become as extensively utilized a diagnostic tool as bacterial culture is today.

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Anorectal Manometry for Evaluating Defecation Disorders

Anthony Shaw, MD, Paul Bosher, MD, and Kenneth Blair, BS,
Charlottesville, Virginia

Especially useful in differentiating between functional constipation and Hirschsprung's disease in children, anorectal manometry is also a practical adjunct in the diagnosis and management of patients of all ages with defecation disorders due to disease.

THE traditional diagnostic tools supplementing history and physical examination in the diagnosis of constipation and fecal incontinence have been barium enema, endoscopy, rectal biopsy and laboratory examination of the various organic and inorganic components of the stool. Although disorders of defecation are often due to malfunction of the anorectal sphincter muscle, techniques that permit direct evaluation of the reflex and voluntary reactions of the sphincter have been utilized in very few centers in this country, in spite of a respectable body of literature attesting to their value. Such techniques are based on the knowledge that in the normal individual, distention of the rectum by stool causes reflex contraction of the external sphincter muscle and reflex relaxation of the internal sphincter.[1]

Schuster and his colleagues utilized these observations to develop a simple, pressure-sensitive apparatus which measures separately the reflex responses of internal and external sphincter muscles and thus can be of practical value to clinicians in the differential diagnosis of disorders of the lower bowel.[2-4] Schuster's technique of anorectal balloon manometry can distinguish between organic disease of the anorectal sphincter muscle (whether primarily myogenic,

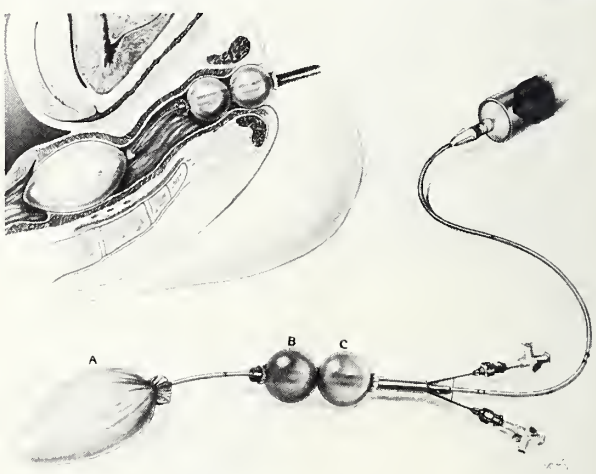


Fig. 1. Apparatus used to study sphincter reflexes. A = Rectal distention balloon inflated by syringe. B = Internal sphincter balloon. C = External sphincter balloon. B and C are connected through separate pressure transducers to multi-channel recorder.

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neurogenic or both) and "functional" disorders with no demonstrable sphincter malfunction. Thus, in Hirschsprung's disease, no relaxation of the internal sphincter muscle is seen in response to rectal distention, while reflex contraction of the external sphincter occurs normally (this lack of relaxation of the aganglionic bowel is, of course, the cause of the obstipation in aganglionic megacolon); whereas in the more common "functional" (habit or "psychogenic") constipation, both internal and external sphincter responses to rectal distention are normal.

Most individuals troubled by fecal incontinence also have normal responses of both sphincter components, since the most common cause of chronic soiling is overflow around a fecal impaction in individuals with functional constipation; but soiling may point to spinal cord injury or congenital neural impairment, as in spina bifida, and, in such conditions, anorectal manometry will confirm impairment of external sphincter function. Sensory impairment due either to a neural lesion or to chronic fecal impaction may be inferred from failure of the alert patient to feel the balloon distending the rectum.

Anorectal manometry has also been helpful in evaluating the degree of function of patients who have constipation and/or incontinence following traumatic injuries of the anus or repair of congenital anomalies such as rectal atresia.

The purpose of this paper is to describe our experience with anorectal balloon manometry and to affirm its value in the differential diagnosis of disorders of defecation.

Methods

The instrumentation developed by Schuster and associates in Baltimore, which has been described in detail in their publications, has been replicated in our laboratory with only minor modifications. Two balloons constructed by tying off segments of a ¼ inch penrose drain mounted on a hollow metal rod, inflated with water and positioned in the anal canal transmit the responses of the internal and external sphincter muscles through pressure transducers (Statham P231D) to a multi-channel recorder (Hewlett-Packard 7702B recorder with 8805B carrier amplifier). A third balloon (constructed from the index finger of a size 7½ surgical glove for use with adult patients and the little finger from the size 6½ glove for use with infants and children), placed within the rectum and connected via a segment of narrow tubing passed through the hollow rod to a syringe, is rapidly inflated and then immediately emptied to provide a transient distention stimulus, which triggers the sphincter reflexes (Fig 1).

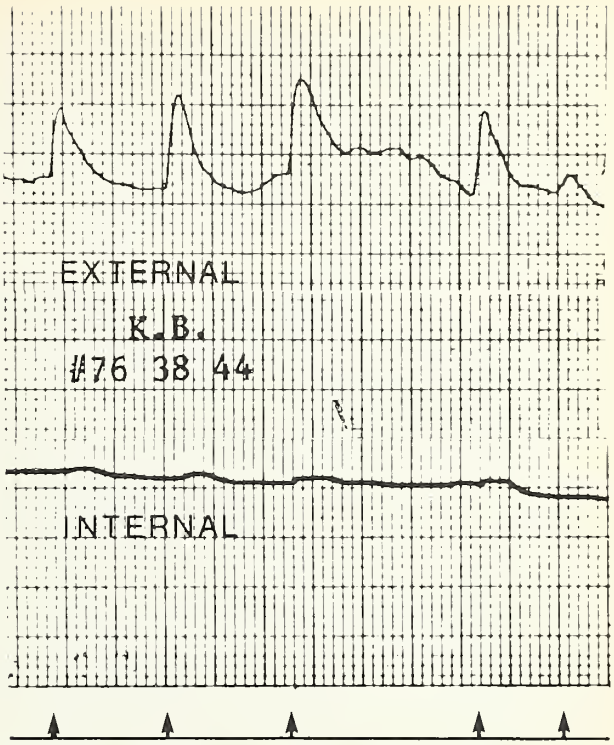


Fig. 2A. Anorectal manometry results in K.B., 3-month-old female; constipation since birth; barium enema equivocal. In upper tracing, external sphincter shows normal pressure rise in response to rectal distention. In lower tracing, internal sphincter shows abnormal response by failing to relax in response to rectal distention (no dips in tracing). Diagnosis: Hirschsprung's disease.



Fig. 2B. Operative findings in K.B., showing typical configuration of sigmoid colon in infant with Hirschsprung's disease. Note funnel-like dilation from left (distal) to right (proximal).

During the study the patient lies on his side with hips and knees flexed. Although the procedure causes minimal discomfort, infants and young children usually require sedation, for which they receive a combination of meperidine hydrochloride, chlorpromazine hydrochloride and promethazine hydrochloride (Demerol, Thorazine and Phenergan) intramuscularly.

Results

Eighty patients, ranging in age from 4 days to 75 years, with fecal soiling or constipation were examined over a 2-year period; 62 under 12 years of age and 48 under 6 years of age.

Fifty-three patients with severe constipation, most having onset in infancy or early childhood, were studied. In eight of these, the internal sphincter muscle failed to relax normally with rectal distention (Fig 2), and ganglion cells were found to be absent on rectal muscle biopsy, confirming a diagnosis of Hirschsprung's disease. The youngest patient in this group was 4 days old and had total colonic aganglionosis; the oldest, 65 years old, had a 42-year history of obstipation and a short segment of aganglionosis. Several patients who had good results following pull-through operations for Hirschsprung's disease were studied postoperatively and, not surprisingly, were found to have no change in the reflex response of the internal sphincter, i.e., no relaxation with rectal distention. The remainder of the constipated patients had normal sphincteric reflexes in response to balloon distention of the rectum (Fig 3). In a few of the most severely symptomatic in this latter group, rectal biopsy confirmed the presence of ganglion cells.

Twenty-seven patients were referred with fecal incontinence as the chief complaint. It was apparent from history and physical examination that most of these were constipated as well. Anorectal manometry was normal in 15, confirming the "functional" nature of their dysfunction. Patients with massive fecal impaction with overflow incontinence required particularly large volumes of air in the rectal balloon before a sensation of rectal fullness was felt and before sphincter reflexes were elicited.

Five patients with neurogenic lesions such as myelomeningocele causing incontinence were studied. Their studies were characterized by normal relaxation of the internal sphincter and varying degrees of impairment of external sphincter contraction (Fig 4). Additional confirmation of impaired external sphincter contraction in this group was provided by recording voluntary efforts at anal muscle contraction.

Seven patients with post-surgical or post-traumatic incontinence were studied, five following perineal or abdominal perineal repair of imperforate anus and two following operations for sphincter damage asso-

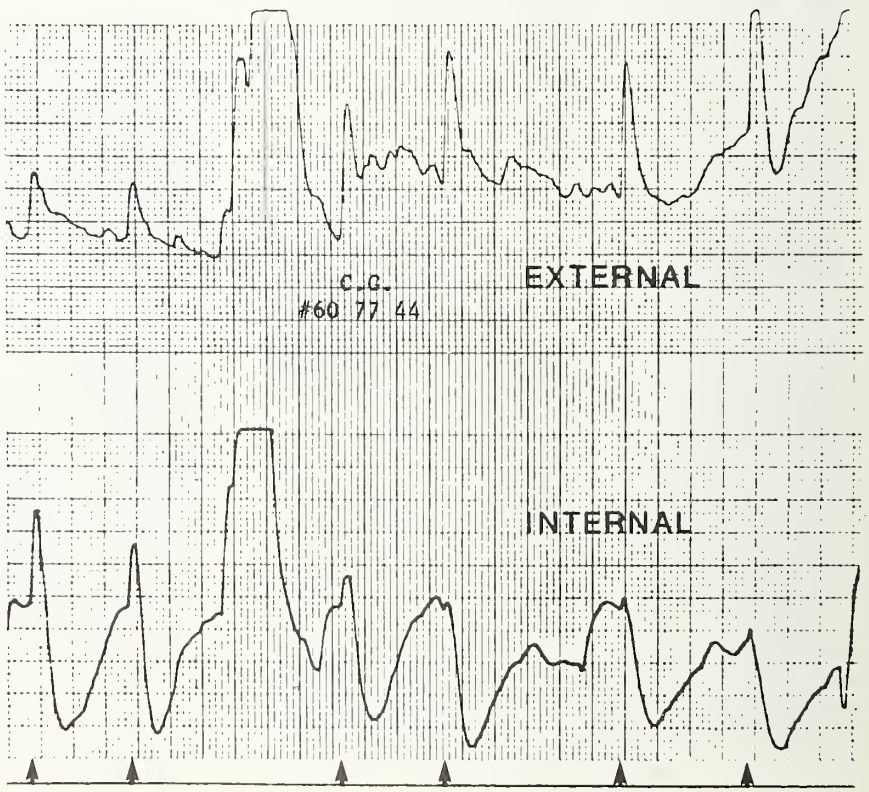


Fig. 3. Anorectal manometry of C.G., 8½-year-old boy with constipation since infancy. External sphincter contracts (upper tracing), internal sphincter relaxes (lower tracing) with rectal distention (vertical arrows on line below tracings). Tall vertical waves to left of center in both tracings represent forceful voluntary contraction of sphincter. Diagnosis: functional constipation.

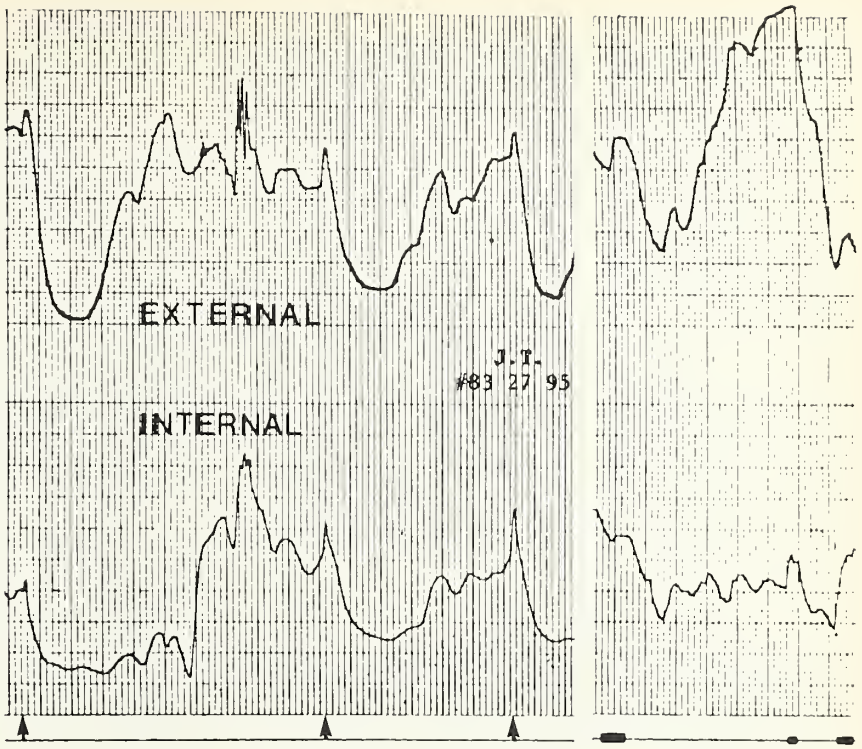


Fig. 4. In J. T., an 8-year-old boy with spina bifida and fecal incontinence, both B and C balloons of the anorectal manometry apparatus reflect, in tracing at left, action of internal sphincter only, which is shown relaxing normally; there is no contraction of external sphincter. In tracing at right, absence of voluntary contractions is shown during periods when patient was asked to "squeeze" down on balloons, these periods represented by short bars on lower line.

ciated with childbirth. These studies showed variable abnormalities of reflex and voluntary sphincter response. In patients with a "low" imperforate anus repaired perineally, responses of both external and internal sphincters were normal, while in children requiring an abdominal perineal pull-through for "high" rectal atresia, reflex sphincter action was severely impaired. Patients with good results following surgery for rectal atresia had excellent *voluntary* contraction of the external sphincter muscle demonstrated on manometry even when the sphincter reflexes were not normal.

Most children with functional constipation, especially those troubled by fecal soiling, are easily diagnosed without the aid of barium enema, rectal biopsy or anorectal manometry. Manometry has been most useful in diagnosing young children with histories of severe constipation since infancy where aganglionic megacolon must be seriously considered. In such children a normal relaxation response of the internal sphincter to rectal distention rules out aganglionosis and supports a diagnosis of functional constipation without the need of barium enema and rectal biopsy in most cases. Children with normal sphincter reflexes are managed with mineral oil, enemas, and toilet training under strict supervision. Failures of this medical regimen may be benefited by internal sphincter myotomy whether they have severe functional constipation or "short segment" Hirschsprung's disease. Diagnostic rectal biopsy in our institution is now reserved for those children with an abnormal internal sphincter response on manometry. (We would not recommend a pull-through operation for Hirschsprung's disease without confirming the absence of ganglion cells pathologically.)

We have found manometry useful in the differential diagnosis of stooling disorders in the neonatal period as well. Hirschsprung's disease in the infant may be manifested by diarrhea as well as constipation, and barium enema in the early weeks of life may be difficult to interpret. As in older children, a relaxation response to rectal distention rules out Hirschsprung's disease without the need for rectal biopsy (Fig 5). Failure of the internal sphincter to relax re-

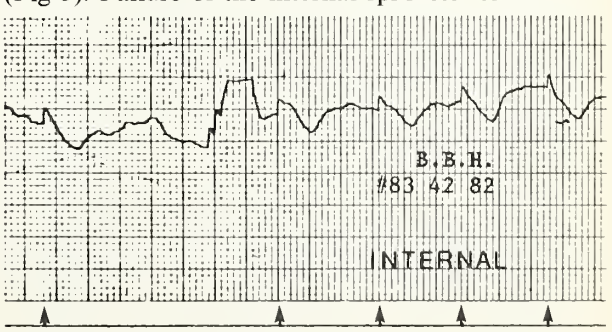


Fig. 5. B.B.H., 10-day-old female with delayed stools and abdominal distention, in whom barium enema was not diagnostic. Anorectal manometry shows normal reflex relaxation of internal sphincter. Diagnosis: meconium plug syndrome. No biopsy, no operation indicated. Complete recovery.

flexively may, however, not occur in premature and small newborns, especially in the first two weeks of life.[5,6] In the newborn, therefore, an abnormal internal sphincter reflex requires additional evaluation by rectal or colonic biopsy.

Anorectal manometry has also proved useful in distinguishing between functional incontinence (especially that related to chronic fecal impaction) and other causes of incontinence, such as congenital and acquired neurological disease in which there is impairment of external sphincter function. In these conditions, as well as in those where incontinence follows accidental or surgical trauma to the external sphincter, we have found manometry to be a useful clinical tool in the initial evaluation, as well as in the followup, of patients undergoing various forms of medical, surgical or psychological treatment for fecal incontinence.

Summary

Anorectal manometry is a valuable tool in the differential diagnosis of disorders of defecation. While especially useful in differentiating between functional constipation and Hirschsprung's disease and thus reducing in many children the need for barium enema and rectal biopsy, anorectal manometry can be a practical adjunct in the diagnosis and management of patients of all ages with constipation and/or fecal soiling due to a wide range of congenital and acquired disease.

The authors thank Dr. Dennis Shermetta and Dr. Alex Haller, Division of Pediatric Surgery, Johns Hopkins University School of Medicine, for their guidance and encouragement.

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Clinical Experience

Initial Diet for Hyperlipidemia

Michael J. Moore, MD,
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WHEN information became available to guide patients with regard to hyperlipidemia diets, doctors were advised to obtain two or three measurements of cholesterol and triglyceride before making a final decision on the specific diet. This posed a problem, since a number of patients never returned for repeat studies, and it was expensive in cost as well as in time away from work. Since we did not give dietary advice until we received the results of the additional studies, a number of patients were never given diet information. Finally, some patients found it difficult to understand the hyperlipidemia diet, and these and others did not seem to comprehend what we were trying to accomplish with the diet.

In order to cope with these problems, I prepared a "simplified" diet which combined many of the features of all the hyperlipidemia diets. This allowed me to give dietary guidance also to young, non-hyperlipidemic people and to older ones whose lab studies were normal. The patient with elevated lipids could be started on this diet at the time of his first tests, and it became less urgent to try to get him back for additional studies. Cholesterol and triglyceride levels could be obtained every few months, and the patient was on a therapeutic dietary program from the first visit. Patients were informed that they might not respond to this less specific diet but that more detailed diets could be prescribed subsequently if needed. It was of interest that the great majority did respond to this dietary advice, and in instances where it became necessary to institute the appropriate Type I, II, III, IV, V diets, the knowledge gained from using the simplified diet was of assistance to them in comprehension of and compliance with subsequent diets.

The original version of this diet was simplified mainly by the avoidance of calories and by specific limitations of certain foods. Obese and overweight patients were told to limit their intake of food suf-

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ficient to lose weight and were given copies of appropriate low-calorie American Dietetic Association diets, continuing the dietary limitations of the "Initial Diet" as well.

Specifically, the diet attempts to reduce cholesterol intake to less than 300 mg per day, to decrease fat intake to 30–35% of total calories, and to decrease saturated fat intake to no more than 10% of calories (to achieve a dietary polyunsaturated-to-saturated fat ratio of more than 1, instead of the usual 0.3).

In summary, an easy-to-interpret "Initial Diet" has been prepared for guidance of patients with regard to the hyperlipidemias, to be utilized until such time as more specific diets are needed for particular patients, and it can also be used to guide non-hyperlipidemia patients.

Hyperlipidemia or Prophylactic Diet

Your doctor wishes you to decrease the amount of food you eat which contains substances known as "cholesterol", "triglycerides", and "saturated fats", as their presence in elevated amounts within your body seems to contribute to a faster aging of your blood vessels (in your heart, brain, legs, etc.).

Cholesterol is essentially supplied by foods of animal origin, especially yellow of eggs, high fat dairy products (butter, whole milk, cheese), fat, organ meats, shrimp, ordinary margarine, and meat (beef, lamb, pork, and their products).

1. Restrict eggs to one twice weekly. (¼ cup of "Eggbeater" has the equivalent protein of an egg and can be eaten regularly if you wish.)
2. High-fat dairy products can be decreased by substituting skim milk and skim milk products for high-fat cheese, cream cheese, ice cream, whole milk and cream.
3. Limit beef, lamb, and pork and use more fish, poultry, veal, and low-fat cottage cheese.
4. Limit or avoid shrimp, fish roe and organ meats and remove poultry skin.
5. Use unsweetened fruit, sherbet, angel food cake and jello as desserts.

Triglycerides come from the fat in your diet, as well as from alcohol and carbohydrates (especially sweets), which combine to form these.

1. Limit the amount of sugar you eat sharply, avoid sweetened fruits and juices, limit or avoid alcohol and do not overindulge in carbohydrates.
2. Trim fat off meat and limit fatty meats as much as possible (including sausage and bacon).
3. Limit or avoid gravies, cream sauces and whipped toppings.

Decrease your use of saturated fats. These are usually fats of animal origin, and consumption of them usually raises the cholesterol level of the blood. They are present in butter, whole milk, cream, and in cheese made from milk or cream, and are present in all forms of meat.

1. Limit butter, whole milk, cream, cheese and meat.
2. Avoid and limit luncheon meats, spare ribs, duck, goose, cold cuts, hot dogs, and commercially fried meats and fried fish; limit and avoid frozen packaged dinners. When eating out, have meat broiled.
3. Use more hard rolls, sliced bread and crackers in preference to commercially prepared hot rolls, biscuits, muffins, cornbread, pie crusts, pancakes, waffles and french toast as they are usually made with lard and eggs. (These items are acceptable if prepared with polyunsaturated fats, as can be done at home).
4. Limit or avoid "junk foods" cooked in saturated fats (potato chips, corn chips, cheese crackers).

Increase your use of **polyunsaturated fats.** These are usually of plant origin. Intake of saturated fats should be balanced with intake of polyunsaturated fats, to lower cholesterol levels.

1. Use the various low-fat milks instead of whole milk.
2. Substitute polyunsaturated margarine for butter, and substitute Mazola, Wesson or Puritan vegetable oil for the solid (saturated) fats commonly used for cooking purposes (frying, etc.).
3. When eating meat items containing saturated fat, try to "balance" the meal with unsaturated fat items.

The polyunsaturated fats are safflower oil, sunflower oil, corn oil and soy oil. Some vegetable oils are saturated fats, including coconut oil and palm oil, and should be limited in the same fashion as butter, Crisco and margarine (unless the last is polyunsaturated). Hydrogenation or hardening of polyunsaturated fats can convert them to saturated fats, and advertising is often deceptive on this.

If you are overweight, weight reduction is of the greatest importance in lowering total cholesterol and triglyceride levels. This also elevates high-density lipoprotein (HDL), the "helpful" form of cholesterol.

Active exercise is beneficial in controlling elevation of triglycerides, and usually has some effect on cholesterol elevations, and increases the helpful (HDL) cholesterol. Check with your doctor to learn if it is permissible or advisable for you.

You must keep in mind that dietary precautions are not nearly so helpful if you continue to smoke, to remain overweight, or fail to control elevated blood pressure. As a matter of fact, smoking decreases the helpful (HDL) cholesterol.

Crystalloid Immunoglobulin Inclusions in Chronic Lymphocytic Leukemia

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Laxmi B. Mohanty, *Richmond, Virginia*

INTRACYTOPLASMIC rod shape crystals are rarely observed in cases of chronic lymphocytic leukemia (CLL) and other lymphoproliferative disorders, including Waldenström's macroglobulinemia and multiple myeloma. The ultrastructural examinations, as well as histochemical studies, indicate that these crystals are composed of protein with immunoglobulin specificity. Review of the reported cases in the literature has disclosed a high correlation between the presence of these inclusions and abnormal serum gammaglobulin level. Recently we had an opportunity to examine such a case.

Case Report

A 58-year-old white male, known to have chronic lymphocytic leukemia for seven years, was admitted for evaluation of anemia and pneumonia. At the beginning of his illness, he had leukocytosis in the range of 155,000 and mainly made up of small lymphocytes; subsequent bone marrow biopsies confirmed the diagnosis of chronic lymphocytic leukemia. The leukemia was paritally controlled with chlorambucil, prednisone and allopurinol for five years; during this period, WBC ranged between 7,000 and 155,000 platelets 25,000 to 125,000 and Hct 35-46%.

Two years prior to admission, combined chemotherapy with cyclophosphamide, vincristine, and prednisone was begun. With this therapy, WBC was less than 50,000/mm^3 for a year after which it rose to the range of 560,000/mm^3 in spite of treatment. A course of radiotherapy (450 rads) to the spleen was completed one month prior to admission in order to shrink his large spleen. With this treatment, his WBC dropped to the range of 66,000/mm^3.

Four years before admission, significant hypogammaglobulinemia was found with no IgA, IgM, Kappa and Lambda light chains demonstrable by immunoelectrophoresis. Shortly after, the patient was found to be completely anergic, and no reaction was noted after application of anergy panel.

His long hospital course was complicated by episodes of *Listeria monocytogenes* sepsis and three bouts of pneumonia, including infection due to *Pneumonocystis carinii.* These infections responded to combined antibiotics and immunoglobulin therapy.

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Materials and Methods

Cytochemical staining: Air dried peripheral blood smears were subjected to Wright-Giemsa, peroxidase, PAS, alpha-naphthyl acetate esterase, acid phosphatase and naphthol AS-D chloracetate esterase stains.

Immunofluorescent studies: Air dried peripheral smears were fixed in absolute alcohol, rinsed with phosphate buffered saline. The smears were then treated with fluorescein isothiocyanate conjugated anithuman immunoglobulin goats serum (Meloy), i.e., anti-polyvalent immunoglobulin, anti-IgG, anti-IgA, anti-IgM, anti-Kappa, anti-Lambda.

Electron microscopy: Buffy coat of peripheral blood using conventional method was fixed immediately in 2% glutaraldehyde, rinsed in phosphate buffer and postfixed in 1% phosphate buffered osmium tetroxide dehydrated with graded ethanol with centrifugation in high speed centrifuge at each step of manipulation. The sediment was embedded in Epon 812. One micron section was stained with methylene blue and azure A stain. Ultrathin sections were stained with lead citrate and alcoholic uranyl acetate and examined with AEI-801 electron microscope.

Results

Wright-Giemsa stain revealed rod- or needle-shaped transparent crystals in cytoplasm of approximately 1-2% of peripheral blood lymphocytes measuring 5-9μ in length and 1-2μ in diameter. An occasional cell contained two or three cyrstals, and these were rarely superimposed on nuclei (Fig. 1).

Positive staining was observed only with anti-polyvalent, anti-IgM and anti-Lambda immunoglobulin; other stains failed to demonstrate these crystals.

Electron microscopic studies revealed optimum preservation. The

lymphocytes were predominantly non-cleaved and relatively mature, showing large amound of condensed chromatin along the nuclear membrane. Their nuclei predominantly revealed single nucleoli. The cytoplasm contained rare rough endoplasmic reticulum (RER) and a few mitochondria. Occasional membrane-bound lysosome-like dense bodies were present. A few lymphocytes contained one or more crystals with density similar to erythrocytes. These were rectangular with sharp margins and corners. The size of these crystals varied and many were surrounded by limiting membrane. No periodic structure was observed (Fig. 2).

Discussion

The presence of intracytoplasmic rod shape inclusion in lymphocytes of chronic lymphocytic leukemia was first reported by Bessis[1] and Bernard et al.[2] Subsequent case reports by deMan and Miners[3] and Hurez et al[4] adequately described the morphology and nature of these inclusions.

These crystals measured 5-10μ in length and 1-2μ in width and did not stain with May-Grunwald Geimsa, PAS, Sudan III, alkaline phosphatase, peroxidase and Feulgen, although they stained pink to bright magneta with Acrolein-Schiff stain and Ninhydrin-Schiff method, indicating presence of protein.[5]

Ultrastructural study of these crystals has revealed considerable variation in their geometrical forms, although mainly consistent with a rectangular bar having a square pyramid at one or both ends of the bar. Staining with lead hydroxide has shown a mosaic pattern, consistent with crystalline structure, having regular 100A° arrangement in more than one direction. These crystals were surrounded by rough endoplasmic reticulum.[3,5–8]

Immunoglobulin nature of these crystals was first reported by Hurez et al.[4] The rod shape inclusions stained positively with fluorescent IgM and anti-Lambda antisera. These cells also contained similar immunoglobulin on their surface. Several additional reported cases have shown similar IgM Lambda immunoglobulins in the crystals as well as surface of lymphocytes.[6,9,11]

Other Ig crystals also have been reported. Two out of four cases reported by Cawley et al[5] contained intracellular crystals of IgA, Lambda. The surface immunoglobulin in the same cells were identified as IgM, Lambda in one case and was lacking in another. Interestingly, one year later no Ig was detectable in the cell surface in the first case while IgA, Lambda crystal persisted. Another case reported by McCann et al described leukemic cells containing crystals of light chain Lambda but with no identifiable heavy chain or surface immunoglobulin.[10] The light chain participating in the crystals usually is Lambda although Preud'homme and Seligmann have reported a single case of chronic lymphocytic leukemia containing intracytoplasmic IgG, Kappa immunoglobulin crystals.[12]

With two exceptions, none of these patients exhibited presence of monocolonal spike on serum electrophoresis while a significant number of lymphocytes in the bone marrow and peripheral blood contained these inclusions, indicating that immunoglobulins were not being excreted from lymphocytes.

Zagury and Uhr[13] have demonstrated that normal immunoglobulin heavy chain is synthesized in the rough endoplasmic reticulum and carbohydrates are being added to the immunoglobulin polypeptide chain in the rough endoplasmic reticulum, mostly in the Golgi complex. The immunoglobulin is transported via a post-Golgi vesicle to the cell surface, where it is inserted into the cell membrane or excreted.[14] Failure to stain these crystals with PAS has been attributed to lack of ability of immunoglobulin to combine with carbohydrate. Indeed, a defect in the glucosyltransferase activity with failure to modify immunoglobulin is suggested by Fremans et al.[7]

Accumulation of Ig molecules in

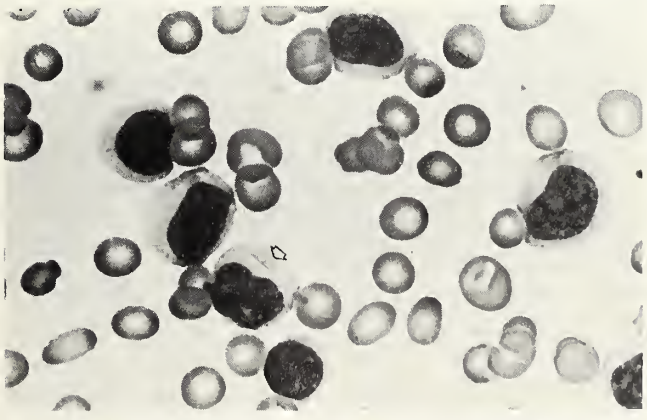


Fig. 1. Negatively stained intracytoplasmic rod-shaped crystal (arrow). Wright-Giemsa stain ×1250.



Fig. 2. Electron micrograph showing two parallel membrane-bound intracytoplasmic crystals. ×40,000.

the rough endoplasmic reticulum for unknown reasons results in crystalinization, and the cell is no longer capable of excreting these products. The presence of surface immunoglobulin in many of these cells containing crystals, to some extent, has been clarified by the work of Takahashi et al, which has shown that certain abnormal lymphoid cells are capable of producing more than one heavy chain at one time.[15] This may explain the presence of IgA, Lambda Ig in the crystals of leukemic patients reported by Cawley et al[5] which contained IgM, Lambda immunoglobulin in the surface of the same lymphocytes.

Of 20 cases of the chronic lymphocytic leukemia containing immunoglobulin crystals which we were able to collect from the English literature (including this case), the serum gammaglobulin level was low in 17 cases. Two cases were associated with monoclonal spike. In only one case the serum gammaglobulin level was normal; the Ig crystals in this case were composed only of light chains. The data in 20 reported cases of chronic lymphocytic leukemia reveal a high correlation between low serum gammaglobulin levels and presence of intracytoplasmic rod shape crystals in cases of chronic lymphocytic leukemia, particularly those containing heavy chain molecules.

Since normal serum immunoglobulin level is the sum of several different clone of protein, a decrease in one particular Ig may not result in clinical hypogammaglobulinemia.

A careful study of all subtypes of Ig in future cases of chronic lymphocytic leukemia with Ig inclusion is necessary for better understanding of protein synthesis in leukemia lymphocytes.

The authors thank Miss Jane M. Payne for technical help in electron microscopic studies.

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Urologic Injuries Associated with Penetrating Wounds to the Buttock

Fred A. Klein, MD, John H. Texter, Jr., MD, and
William J. Snoddy, MD, *Richmond, Virginia*

PENETRATING injuries to the buttock comprise a clinical syndrome that is rare during peacetime, and there is little on the subject in the recent general surgical and urological literature. Experience at the Medical College of Virginia with 15 patients during the period 1969 until 1978 revealed this injury to produce a spectrum of damage ranging from minor soft tissue defects to severe internal injury. Seven of these patients had positive genitourinary symptoms on admission to the Emergency Department; of these, five had significant injury to the urinary tract to require aggressive surgical therapy. The purpose of this paper is to review the clinical experience and discuss the surgical implications and management of penetrating wounds of the buttocks from the urological viewpoint.

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Presented by Dr. Klein before the Mid-Atlantic Section of the American Urological Association on 31 October 1978 at the Greenbriar, White Sulphur Springs, West Virginia.

Submitted 7-19-79.

Clinical Data

During the nine-year period April 1969 until April 1978, 15 patients with penetrating injuries to the buttocks were evaluated at the Medical College of Virginia Hospital. There were 12 males and three females, with a mean age of 29 years (range 18-55 years). All patients were evaluated in the Surgical Emergency Department prior to admission or operation. Twelve of the patients received their injury from a handgun and three sustained close range shotgun wounds.

Objective findings were limited to abdominal and rectal evaluation, urinalysis and examination of pelvic soft tissue defects. Abnormal abdominal findings, either tenderness, guarding, or both, were present on admission in eight patients. Significant intraperitoneal injuries were present in six of these patients, a seventh had a large retroperitoneal hematoma, and the eighth had a severe retroperitoneal genitourinary injury. Five of the seven patients with negative abdominal examinations sustained soft tissue injuries alone; two others had major retroperitoneal injuries. On rectal examination, four of the patients had evidence of bleeding into the rectal lumen. Three of these patients had rectosigmoid perforation, and one had no discernible injury. Two patients, however, had no rectal bleeding, but did have colon perforations. Seven patients had gross hematuria on admission, of which five had confirmed radiographic evidence of urinary tract injury. Two had vesical or ureteral hematomas with no perforations.

Laboratory investigations included routine blood work, urinalysis, flat and upright abdominal films, and chest X ray in all patients. Intravenous pyelograms, cystourethrograms, and retrograde urethrography were used in selected patients. Routine chest X rays and abdominal radiographs were useful in localizing the missile and in grossly predicting intraperitoneal penetration. Intravenous excretory urograms were performed in nine of the patients. Only one patient had a grossly evident injury on urogram. This patient's X rays showed initial delay of visualization of the right collecting system with subsequent bilateral ureteral extravasation. At the time of operation, the findings of extravasation were confirmed and were the result of ureteral vesical junction rupture and a left ureteral rupture. Cystourethrography was obtained in seven of the nine patients, along with excretory urograms. Extravasation was demonstrated in two patients. Five of the patients had normal cystourethrograms except for bladder compression secondary to pelvic hematoma formation. Of the five patients with a cystourethrogram which did not show extravasation, two were subsequently found to have definite

bladder perforations. One was confirmed cystoscopically and the second was found at the time of surgical exploration. The one patient who had a positive retrograde urethrogram had complete rupture of the bulbous urethra. Proctoscopy was done in seven patients and showed the missile wound sites in only two of the patients. Five of the patients with negative examinations had no demonstrable missile injuries. Barium enema examination and diagnostic peritoneal lavage were not utilized in any of the patients.

The type and extent of the injuries were of particular note. Of the 15 patients with penetrating buttock wounds, three had perforations of the bladder, which was the most common urological organ involved, as would be anticipated by both its size and position. A single patient had damage to the urethra and another patient had penetration of the ureters. By use of a complete history, physical examination, and appropriate radiographs, it was possible to diagnose the urologic damage associated with a penetrating injury. The average number of organ systems injured was 1.6 per patient. Colon and small bowel perforations were always associated with other injuries. Sixty percent of the injuries were limited to the retroperitoneum. Two patients had minor soft tissue injuries, and were observed for 24 hours prior to release from the emergency room; the remaining 13 patients underwent surgery. Two patients required only debridement, since no visceral structures were injured. Both of these patients were victims of close range shotgun wounds, had suffered large amounts of soft tissue destruction, and required long periods of hospitalization. Colon injuries were managed by closure of the perforation and diverting proximal colostomy. Small bowel injuries were managed either by oversewing the perforation site or by segmental resection of the involved portion of the bowel.

The three bladder injuries were treated by oversewing the perforation site. A suprapubic cystostomy tube and drainage of the perivesical space was then instituted. The urethra injury was handled by suprapubic cystostomy tube and urethral realignment after passing a catheter through the bladder neck into the distal urethra. The bilateral ureteral injury was handled by debridement and bilateral reimplantation of the ureters with a suprapubic cystostomy. Prophylactice antibiotic coverage was instituted in all cases upon arrival in the Emergency Department.

The mean hospital stay was 22 days (range 1-60 days); the longest hospitalization occurred in patients with shotgun wounds or multiple injuries. The most common postoperative complication was fever (four patients); no patient developed sepsis, despite gross urinary and fecal contamination. Other complications included partial small bowel obstruction and paralytic ileus in two patients resolving spontaneously, and one instance of urinary extravasation from a reimplantation site which required subsequent incision and drainage of the urinoma and a temporary diverting nephrostomy. The leakage eventually stopped, the nephrostomy tube was removed, and the patient recovered. There were no deaths in this series.

Discussion

Penetrating wounds to the buttocks have not been recognized as a distinct clinical entity in the recent literature. Consideration of the structures at risk should emphasize the potential seriousness of these injuries. Almost any combination of injuries is possible, with bowel and genitourinary structures being the most common. Other structures at risk include the pelvic vasculature, genitalia, hip joints, sciatic nerves.

The most valuable factors in preoperative evaluation of these injuries are the history and physical examination, with special attention to the abdominal, rectal, and pelvic examination. Signs of peritoneal irritation show a close relationship with intraperitoneal injury. Likewise, gross rectal bleeding and hematuria are reliable indicators of colorectal and genitourinary tract injuries. Proctoscopy is important in all patients with gross rectal bleeding in order to define the nature and the site of penetration. Intravenous excretory urograms and cystourethrography are helpful when positive; however, further investigation by retrograde urethrography and cystoscopy should be done if clinical suspicion is high. Recent urological literature has reported about 15% incidence of false-negative cystograms, but this rate can generally be reduced by moderate overdistension of the bladder and additional oblique views.[1] Generally, if there is a false-negative cystogram, the injury is probably minor and already sealed off by either a hematoma or omegtum and/or perivesical fat.[2] Diagnostic intraperitoneal lavage, although helpful in determining intraperitoneal injuries, is of little value in diagnosing the retroperitoneal damage.

Although there has been a report of managing intravesical perforations from gunshot wounds with the use of a urethral Foley catheter,[3] it is our conviction that any gunshot wound with peritoneal signs needs prompt exploration and repair of the associated intraabdominal injury. Since most of the patients with significant genitourinary injuries also have peritoneal signs and require surgical exploration, it is best to open the bladder, oversew the perforation, and divert the urine with a suprapubic tube.

Thus, prompt aggressive surgical management of this entity as out-

lined above resulted in no patient death and a minimum of surgical complications.

Summary

The clinical syndrome of penetrating injuries to the buttocks at the Medical College of Virginia has been reviewed. This syndrome may present with a spectrum of injuries, from minor soft tissue damage to serious bowel, genitourinary, or vascular damage. Careful history and physical examination along with preliminary plain X rays and appropriate contrast radiographs should be performed. Additional diagnostic studies such as proctoscopy and cystoscopy are helpful when additional preoperative information is required.

When retroperitoneal and intraperitoneal injury is suspected, prompt exploration with aggressive intraoperative management is recommended.

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Acromio-Clavicular Separation Masked by Muscle Spasm

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SUBLUXATIONS and dislocations of the acromio-clavicular joint are easily diagnosed, as a rule, by comparing the radiographs of the injured with the normal shoulder. Recently we had the opportunity to study a case in which the characteristic radiographic changes were masked by a muscle spasm, and the separation of the acromio-clavicular joint was not seen until the joint had been infiltrated with local anesthetic.

Acromio-clavicular separation is a relatively common injury in active young persons. The integrity of the acromio-clavicular joint is maintained by 1) a weak fibrous capsule; 2) the superior acromio-clavicular ligament; 3) the coracoclavicular ligament; 4) the trapezius muscle; and 5) the deltoid muscle[1]. Acromio-clavicular separations may be classified according to the degree of damage to the structures about the joint[2,3]. In a Type I or mild sprain there is minor stretching of the ligaments and capsule, but the ligaments remain intact, the joint is stable and there are no radiographic findings. In a Type II or moderate sprain there is a separation of the acromio-clavicular ligament and the distal end of the clavicle is unstable; there may be stretching of the fibers of the coracoclavicular ligament but the ligament remains intact. This constitutes a subluxation of the acromio-clavicular joint, and weight-bearing radiographs show elevation of the clavicle of about 50% of the height of the articular surface of the acromion. There may also be widening of the acromio-clavicular joint by about 3-4 mms[2]. In a Type III or severe sprain there is disruption of both the acromio-clavicular and coraco-clavicular ligaments. The coroco-clavicular ligaments may remain intact and produce an avulsion of the coracoid process. There also may be disruption of the muscles with a Type III injury[1]. Radiographs reveal elevation of the clavicle by more than 50% of the height of the articular surface of the acromion, and there may be widening of the joint space by 40-50% of the width of the joint space on the normal side[2].

In addition to the bony abnormalities in acromio-clavicular separation, Weston has described soft tissue changes with this type injury[4]. The soft tissue signs are a triangular gap under the distal end of the clavicle, a soft tissue mass over the acromio-clavicular joint and a "squaring off" of the origin of the deltoid muscle.

The acromio-clavicular joint is evaluated for sprain by first taking AP radiographs of both shoulders. If there is a Type III dislocation, no further views are necessary. However, if the acromioclavicular joints are symmetric, or if the clavicle is elevated by no more than 50% of the height of the articular surface of the acromion, or if widening of the joint space is minimal, stress views are necessary. It is clinically impossible to differentiate a Type II subluxation from a Type III complete dislocation[2].

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Submitted 10-12-79.



Fig. 1A. Non-stress film reveals no abnormality.

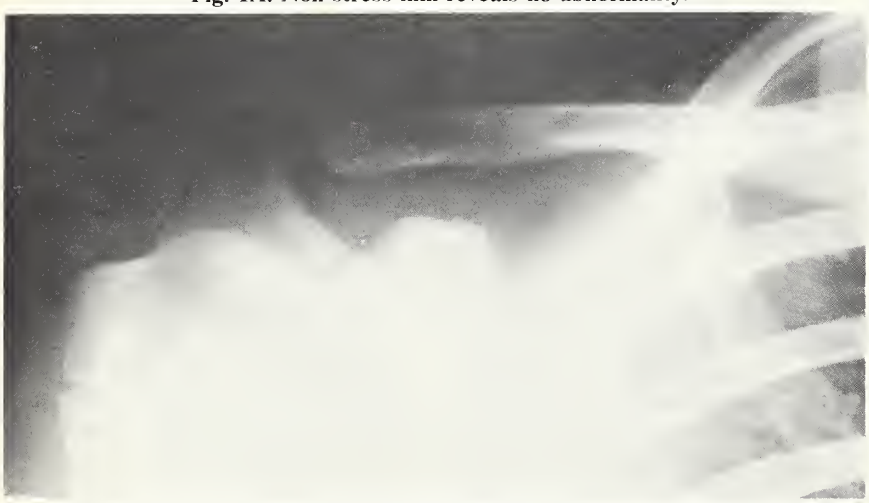
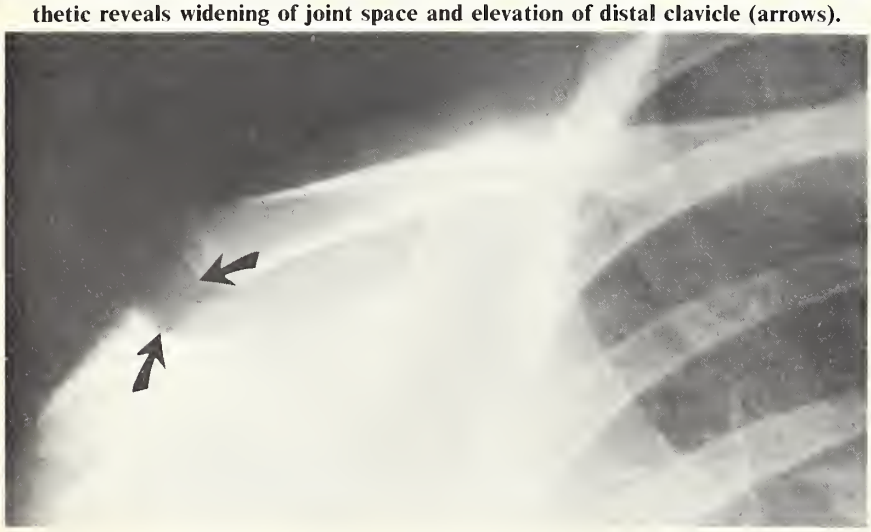


Fig. 1B. Stress film, with patient hand-holding weights, reveals no change in position of distal clavicle.

Fig. 2. Stress film following infiltration of acromio-clavicular joint with local anesthetic reveals widening of joint space and elevation of distal clavicle (arrows).



There are various recommendations as to how to best perform the stress films. Mosley recommends 25 pounds held in each hand[5]. Harris and Harris recommend 15-20 pounds held in each hand[6]. Rockwood and Green recommend 5-15 pounds of weight, not held in the hand but suspended by a loop of webbing around each wrist[2]; they feel this allows for relaxation of the muscles of the upper extremity and prevents any muscle forces from lifting the arm upward. (The current case may well support the last recommendation since the weights were hand-held, and no change in position of the distal clavicle was seen.) The downward pull of the arm results in an upward drift of the clavicle when there is disruption of the acromio-clavicular joint. It should be noted that the inferior aspect of the acromio-clavicular joint is a more reliable indicator of separation than is the superior aspect of the joint[7]. If there is no such upward drift of the clavicle with weight-bearing views, the ligaments are usually assumed to be intact[1].

In the case reported here, both the films without stress and the films with 10 pounds held in each hand were negative (Figs. 1A & 1B). However, after infiltration of the joint with local anesthetic, the stress views revealed a 50% elevation of the distal end of the clavicle and a widening of the joint space of about 4 to 5 mms (Fig. 2). Apparently, spasm of the deltoid and trapezius muscles prevented the characteristic upward drift of the clavicle and widening of the joint space. We feel this is a significant point, since the disruption of the acromio-clavicular ligament was not appreciated on the initial views and the degree of ligamentous injury does influence the treatment.

Summary

Weight-bearing views in suspected acromio-clavicular separa-

tion may be misleading if there is extensive spasm of the deltoid and trapezius muscles. The effect of this spasm may be lessened by strapping the weights to the wrist rather than having them hand-held. However, if there is strong clinical suspicion of an acromio-clavicular separation and the stress films, however taken, fail to reveal an upward displacement of the clavicle or widening of the joint space, the study should be repeated after infiltration of the acromio-clavicular joint with local anesthetic.

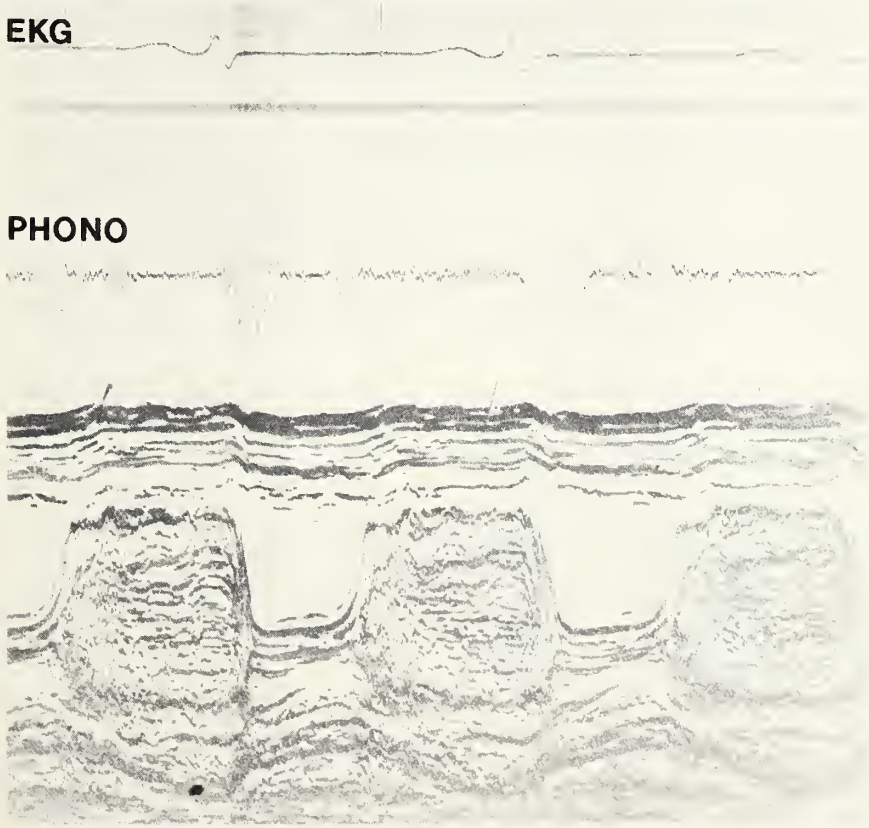
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Can You Diagnose This?

A medical puzzle prepared by
Randolph P. Martin, MD, *Charlottesville, Virginia*

A 62-year-old white female was admitted to the hospital with the diagnosis of rheumatic mitral valve disease despite never having had a past history of rheumatic fever. She had been well until three years prior to this admission, at which time she began gradually to develop symptoms of dyspnea on exertion and nocturnal dyspnea; over the ensuing three years, these symptoms increased dramatically in severity. Six months prior to admission, a diastolic rumble was heard, which varied in intensity from time to time. On this admission there was also thought to be an opening snap, and the patient was scheduled for cardiac catheterization. Prior to the catheterization, the echocardiogram shown below was obtained, through the mitral valvular structures, with a simultaneous EKG and phonocardiogram.



Which of the following statements are true and which are false?

- The phonocardiogram is characteristic of tight severe mitral stenosis.
- The echocardiogram is characteristic of rheumatic mitral stenosis.
- The echo- and phono-cardiograms are characteristic of a large prolapsing atrial myxoma.

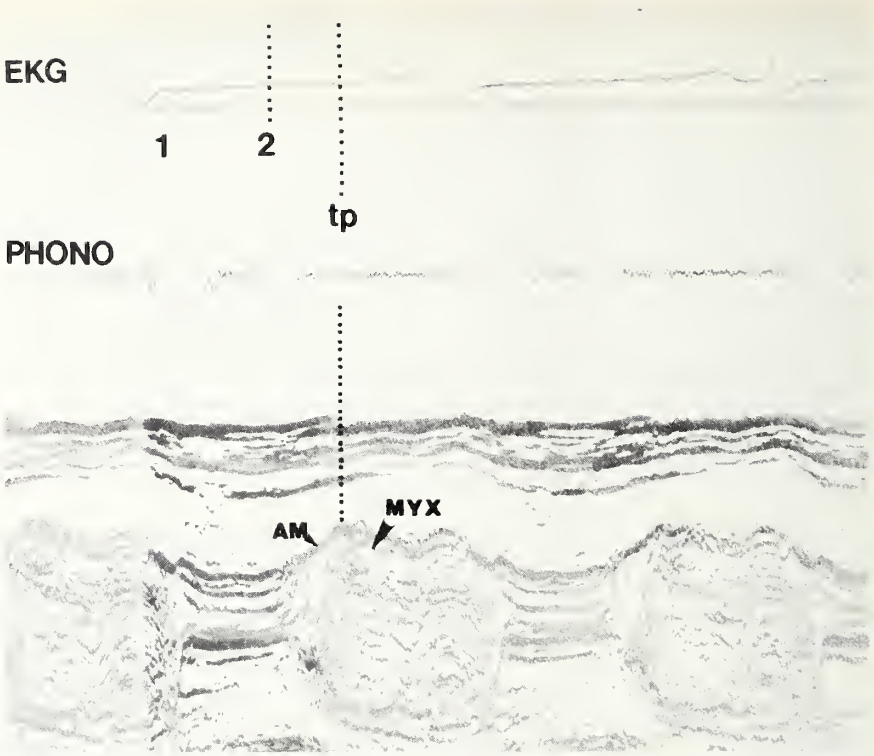
From the Noninvasive Laboratory, Division of Cardiology, Department of Medicine, University of Virginia Medical Center, Charlottesville VA 22908.

DIAGNOSIS/DISCUSSION NEXT PAGE.

DIAGNOSIS: Prolapsing atrial myxoma.

DISCUSSION

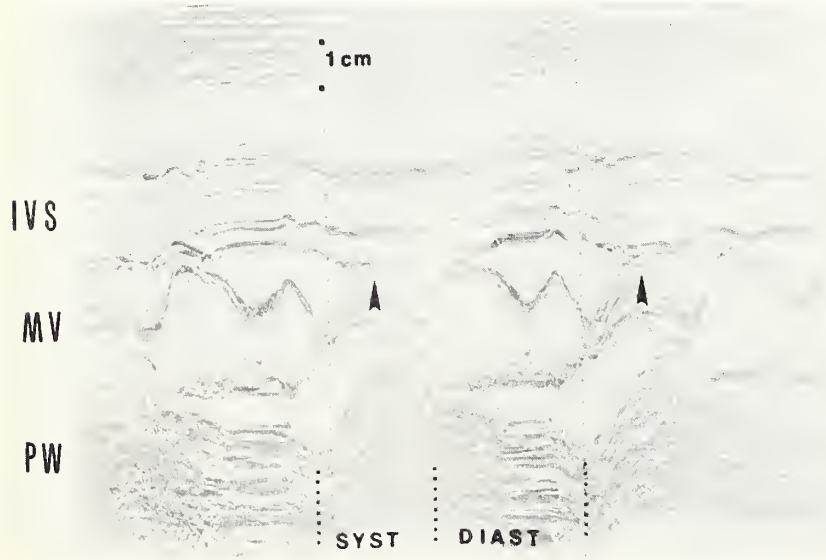
The echocardiogram is classical of a large prolapsing atrial myxoma (MYX). It can be seen that the myxoma prolapses through the opened mitral valve orifice with the anterior leaflet (AM) and comes to a sudden cessation of its motion at a time that corresponds with the early diastolic sound called tumor plop (TP). The phonocardiogram shows a prominent first heart sound (1); from the time markers at the top of the echocardiogram, one can see that the interval between the second heart sound (2) and the early diastolic sound is much longer than one would anticipate for severe mitral stenosis. Also, the patient's history is a classical one for a myxoma, in that she did not have a history of rheumatic fever and had not had murmurs heard throughout her adult life until the onset of her symptomatology. Also there was a rapid progression in the severity of her symptoms.



A 38-year-old black male was admitted to the Coronary Care Unit after a prolonged episode of chest pain. Cardiovascular examination revealed a blood pressure of 140/90 with a grade 3/6 early harsh systolic ejection murmur, heard best at the upper sternal border and increasing with intensity as the patient sat up, and Q waves in the inferior and lateral leads.

The echocardiogram shown here yielded the diagnosis: idiopathic hypertrophic subaortic stenosis (IHSS). There is a markedly thickened interventricular septum measuring 1.7 cm in diastole, with the upper limits of normal being 1.3-1.5 cm. More importantly, the mitral valve is displaced anteriorly into an apparent small ventricular chamber, and there is marked systolic anterior motion of the mitral valve complex as shown by the black arrows. IHSS is not an uncommon cause for admission to the Coronary Care Unit. Patients who have harsh systolic ejection murmurs with an initial early brisk upstroke to the carotid impulse should definitely be listened to in the supine and sitting positions, as changing from supine to sitting will initially decrease left ventricular volume and therefore increase the murmur of IHSS.

RANDOLPH P. MARTIN, MD



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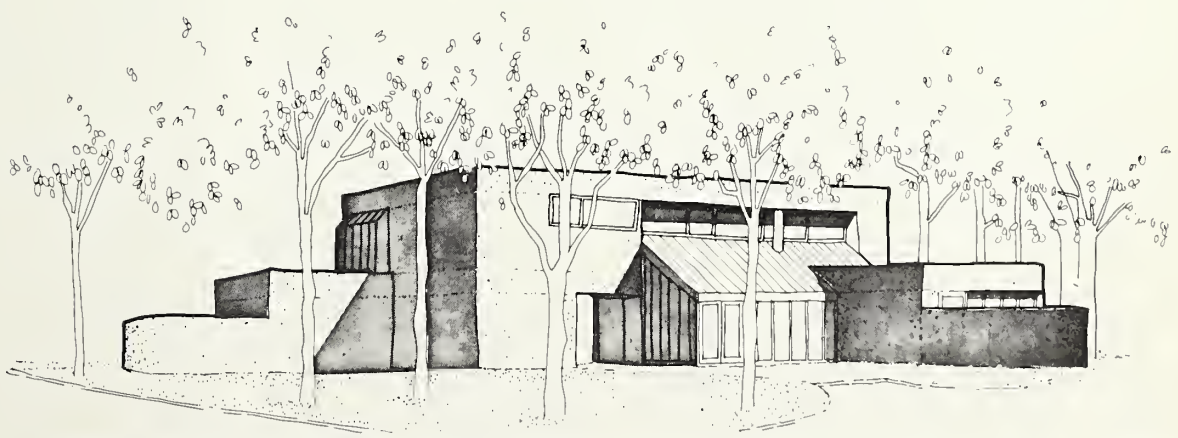
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Medicine at the General Assembly 1980

Summarized here are significant health-related actions. A complete report of all legislation concerning medicine discussed at this session has been compiled by Willard C. Osburn, The Medical Society of Virginia's staff member for legislation, and is available to MSV members on request.

ADOPTED

• SB-70, Jury Duty: Originally omitted all occupational and professional exemptions from jury service but was amended to retain exemption for physicians and dentists.

• SB-142, Department of Health Regulatory Boards: Amends the Freedom of Information Act to specify the conditions for the disclosure of official records of the Department of Health Regulatory Boards. Expands the powers and duties of the Commission of Health Regulatory Boards. Provides for the bond of the director of the department. Provides the procedures of any hearing conducted by the individual boards and officers to preside over the hearing. Provides that the director of the department and investigative personnel shall enforce the statutes and regulations of the department and investigate any violations. Enumerates the attendant powers and duties of the investigative personnel. Authorizes the individual boards to levy penalties of up to $1,000 for violations of laws or regulations by persons who are not criminally prosecuted.

• SB-174, Inventories of Controlled Drugs: Repeals the obsolete dates for the development and update of records on controlled drugs. Specifies how any person who was not in business on March 1, 1979, and who thereafter disposes of controlled drugs in any manner must keep a accurate inventory record of all drugs in Schedules I through V.

VETOED

Governor Dalton vetoed HB-183, which would have reduced from 2¾% to 2% the tax on premium income from accident and sickness insurance policies.

• SB-184, Deductibles for Prepaid Health Plans and Accident and Sickness Policies: Requires deductible of at least $100 or co-insurance of 20% of the first $1,000 and deductible of at least $100 and co-insurance of the next $1,000 to be offered as an option on all prepaid medical, hospital, dental and optometric plan contracts and all accident and sickness insurance policies.

• SB-185, Health Maintenance Organizations: Repeals the section authorizing health maintenance organizations and providing for their establishment and regulation the same as prepaid plans for medical and hospital services. Sets out new laws applicable exclusively to health maintenance organizations and providing for their establishment and regulation.

• SB-351, Prepaid Hospital, Medical, Surgical, Dental and Optometric Plans of Insurance: Makes statutory provisions affecting prepaid hospital, medical, surgical, dental and optometric plans of insurance consistent and makes them more closely conform to the administrative procedure of Title 38.1.

• HB-96, Immunization of Children: Introduced at the request of The Medical Society of Virginia. Requires parents to immunize their children against mumps before the children attain the age of 2 years.

• HB-174, State Perinatal Services Advisory Council: Establishes the State Perinatal Services Advisory Council to the Department of Health and specifies its membership, powers and duties. Requires the State Board of Health and the Statewide Health Coordinating Council to consider the plan for perinatal services developed by the Council.

• HB-407, Prenatal Tests: Introduced at the request of The Medical Society of Virginia. Requires physicians to test pregnant women for only those venereal diseases designated by the Board of Health.

• HB-641, Workmen's Compensation Medical Cost Peer Review: Creates a medical cost peer review system under the Workmen's Compensation Act. Defines terms. Creates a 9-member Statewide Coordinating Committee representing the health systems areas in Virginia. Majority of committee must be physicians. Provides for per diem and expenses of members. Establishes peer review committees for each health systems area, each committee to consist of five

physicians. Provides peer review of physicians rendering services to patients under Workmen's Compensation Act. Authorizes committee to take corrective action for inappropriate medical treatment or services rendered; provides for appeal to Industrial Commission.

• HB-698, Medical Malpractice: Provides that testimony of an expert witness familiar with statewide standard of care is not to be excluded solely on the grounds that the witness does not practice in Virginia.

• HB-793, Medical Malpractice Joint Underwriting Association: Provides for the dissolution and reactivation of the Medical Malpractice Joint Underwriting Association. Continues its existence past July 1, 1980, but subjects its continued existence to certain criteria. Allows for the reactivation of the association if the Insurance Commission finds such insurance not readily available in voluntary market.

• HB-859, Drug Prescriptions: Prohibits more than one written prescription on a drug prescription form. Deletes prohibition on including drugs from two or more different schedules in one prescription.

• HB-950, Investigations of Physicians Charged with Substance Abuse: Requires that special committees appointed by the Board of Medicine to consider reports of professional misconduct by physicians because of substance abuse base their decisions for actions on such charges on the physical and mental condition of the physician at the time of the committee's conference, together with the facts of the report alleging misconduct.

CARRIED OVER

• SB-369, Denial of Professional Practice to Physicians: Would make it an improper practice for the governing body of a medical care facility to deny any licensed physician privileges to treat a patient who needs medical treatment requiring the use of equipment for which a certificate of need is required.

• SB-440, Child Restraint Systems: Would require use in motor vehicles of child restraint systems for all children under 4 years of age.

• HB-87, Pituitary Gland Retrieval: Introduced at the request of The Medical Society of Virginia. Would authorize the Chief Medical Examiner to provide body organs, glands, eyes or other tissue on the request of the transplanting surgeon when such are needed by a patient for a transplant or therapy. Would repeat the requirement that the Chief Medical Examiner determine that 1) the viability of the organs, glands, eyes or other tissue cannot be maintained for the time necessary to contact the next of kin of the decedent, and 2) that there is no known objection foreseen by the next of kin.

• HB-254, Licensure of Surgical Assistants: Would require the State Board of Medicine to promulgate regulations for the licensure of surgical assistants, define "surgical assistant" and specify eligibility criteria therefor.

• HB-524, Supplement Report to Insurers' Annual Statement: Would require property or casualty insurer to supplement its annual statement with a report of its loss and expense experience for previous year. Provide for the report to contain certain data, require SCC to review annually such report and publish filings and findings; also provide SCC to order suspension of rate if it finds rate does not meet standards required.

• HB-661, Licensure, Inspection and Insurance Coverage for Hospice; Penalty: Would define hospice and provide for the licensure of hospice programs by the State Board of Health, for the periodic inspection of hospices by the Department of Health and for the promulgation of regulations setting forth the minimum standards for a hospice and its staff; exempt churches or denominations from licensure as a hospital, nursing home or hospice in instances where the sick are treated without the use of drugs or medical remedies; provide for application for a license, service charges, conditions when a new license is required, display of the license and conditions for revocation or suspension; make it a Class 6 felony to operate a hospice without a license; and provide insurance coverage for hospice services.

• HB-762, Statute of Limitations: Would provide that medical malpractice acts commence within five years of the injury committed or three years after discovery, whichever is shorter.

Continued over.

• HB-872, Right to Natural Death; Brain Death: Would provide procedure for person to declare that he does not desire extraordinary means used to sustain his life.

• HB-925, Reimbursement Under the Medicaid Program: Would provide that medical or dental services reimbursed by Medicaid shall be paid for at the same rates as those paid by private insurance companies.

• HB-1002, Professional Licensing Boards: Would add two public members to the Real Estate Commission and the State Boards of Pharmacy, Nursing and Medicine.

KILLED

• SB-170, Medical Malpractice: Would have required expert medical witness in medical malpractice proceedings to be licensed and to devote three-quarters of his professional time in the profession or in teaching.

• HB-244, Regulation of Opticians: Would have revised the laws regulating the practice of opticians, required opticians to be certified in the fitting of contact lenses, restructured the State Board of Opticians, limited the terms of its members and increased the membership from five to seven, required continuing education of all opticians effective 1/1/82, specified instruments opticians were authorized to use, and specified qualifications of applicants for license to practice as opticians.

• HB-926, Experimentation with Human Fetuses: Would have prohibited the use of any living human conceptus for scientific laboratory, research or other kind of experimentation, excluded from the prohibition study of the conceptus, appropriate diagnostic and remedial measures concerning the mother of conceptus, and provided for the revocation of the license of a physician or hospital which violated the prohibition.

• HB-938, Defense of Governmental Immunity: Would have provided that the defense of governmental immunity shall not be available to any health care provider in any malpractice action. Added a proviso that when the health care provider in any malpractice case has insurance, plaintiff's recovery is limited to the maximum insurance coverage.

• HJR-101, Nurse Practitioners Prescribing Drugs: Would have requested the House Committee on Health, Welfare and Institutions and the Senate Committee on Education and Health to study certain practices governing the prescribing of drugs by physicians, nurses and nurse practitioners.

RESOLUTION

• SJR-32. Willey Commission: Continues the Commission to Study the Containment of Health Care Costs.

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MEDICINE AND THE LAW

Strict New Rules for Self-Insured Medical Reimbursement Plans

Prior to January 1, 1980, it was possible for a corporation to have a self-insured medical reimbursement plan for highly compensated or managerial employees without adverse tax consequences to them. Under these plans, the corporation would reimburse eligible employees from its own funds for their medical expenses to a stated limit. Amounts reimbursed under such programs were tax deductible to the sponsoring employer and were not taxable to the employee.

Effective January 1, 1980, these plans are subject to essentially the same non-discriminatory coverage rules that apply to qualified retirement plans. In addition, the law now provides that "excess reimbursements" of benefits to "highly compensated individuals" will be taxable to them. These amounts will continue to be tax deductible to the corporation, even if they are taxable to the employee.

Like qualified retirement plans, medical reimbursement plans must now cover 70% of all employees of the sponsoring corporation (or, if at least 70% of a corporation's employees are eligible, the plan must cover at least 80% of the eligible employees). Alternatively, a plan may qualify if it covers a "nondiscriminatory classification of employees".

For purposes of determining whether a plan satisfies the new coverage requirements, the following employees, among others, may be excluded:

1. Employees who have not completed 3 years of service.
2. Employees who have not attained age 25.
3. Individuals customarily employed for less than 35 hours per week or less than 9 months per year.

In addition to the coverage requirements, the new law also requires that the same dollar amount of benefits be available to all participants. Thus, if $3,000 of reimbursement is to be available to a physician, $3,000 of reimbursement must be available to each other participant in the plan.

Under the new rules, excess reimbursements to a highly compensated individual are included in his income. "Highly compensated individuals" are 1) the five highest paid officers of the corporation; 2) own more than 10% in value of the stock of the employer; or 3) the highest paid 25% of the employees eligible to participate in the plan.

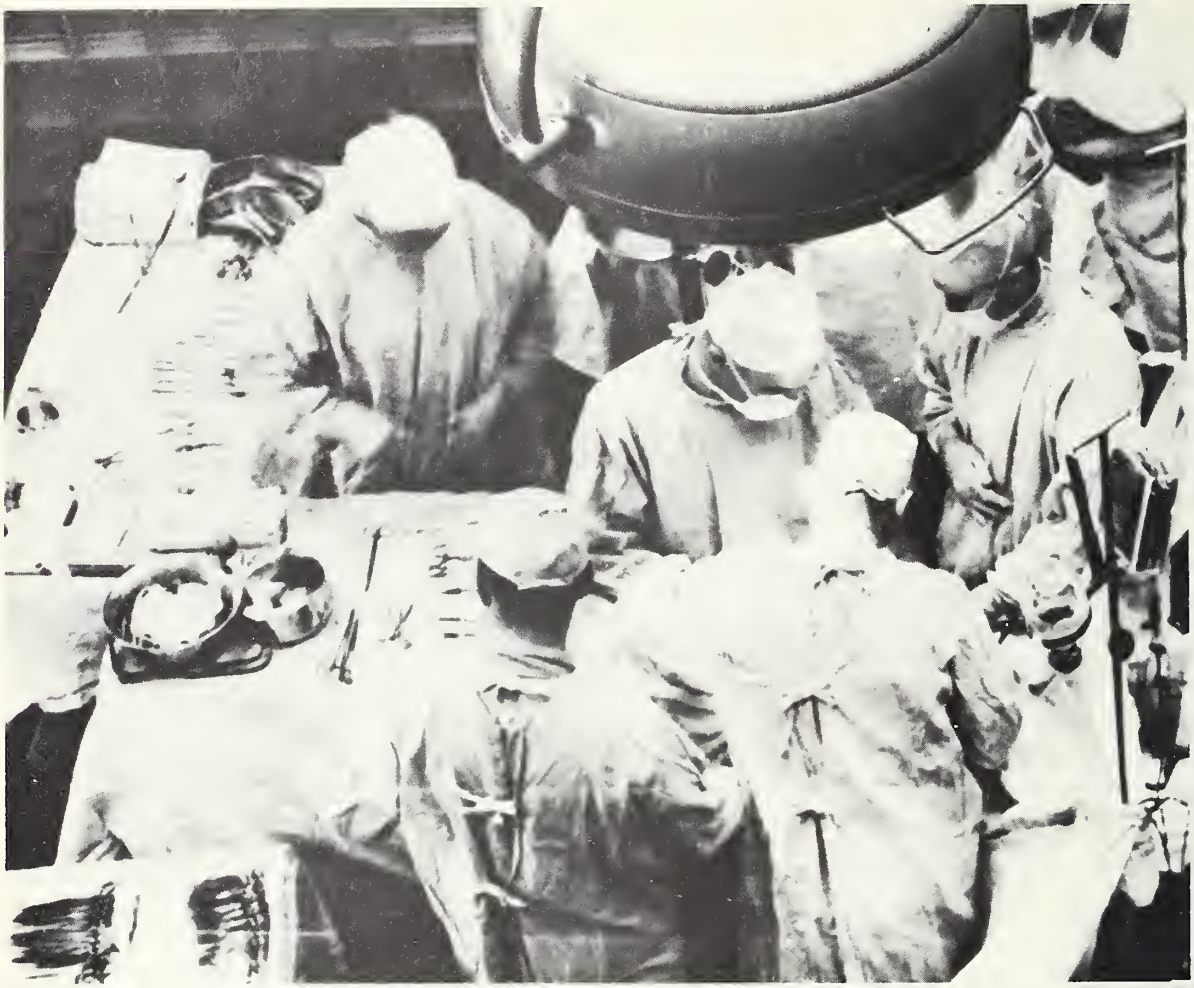
"Excess reimbursements" are either 1) amounts reimbursed to a highly compensated employee which are not available to a broad cross section of employees under a plan satisfying the non-discriminatory coverage requirements, or 2) the total amount reimbursed to a highly compensated individual under a plan which does not meet the non-discriminatory coverage requirements or which provides some beneifts to highly compensated individuals and not to other participants, reduced proportionately to reflect amounts rank and file employees have received.

The new rules do not prevent an employer from providing traditional medical insurance directly for some employees and not for others. Thus, an employer could pay premiums directly on medical insurance provided for its officers or other managerial employees as a part of their compensation package. These premiums would not be covered by the new medical reimbursement plan rules, even if other employees have no insurance or less extensive insurance coverage.

ALLEN C. GOOLSBY III

Mr. Goolsby is legal counsel for The Medical Society of Virginia.

This Transplant Made Medical History



THE first successful transplantation of a vital organ from one human to another was in progress when this photograph was taken. The date was December 23, 1954. The place was Peter Bent Brigham Hospital, Boston, where a team of surgeons and medical scientists performed the landmark transplant. There were two coordinate procedures, neither ever performed before: to remove a healthy kidney from a young man named Ronald Herrick and install it in his dying twin brother, Richard. To the surgeons' jubilation, Richard Herrick lived for seven years after receiving his brother's kidney (he died of heart disease, possibly related to his renal ailment), and the donor, Ronald, is still alive and healthy, a schoolteacher in Maine.

The way for this operation had been illuminated by earlier transplants at Peter Bent Brigham that had utilized cadaver kidneys or ailing kidneys removed for medical reasons; these had not functioned well, although one had kept a patient alive for six months, but they formed a key experience. Leader in these experiments was the late David M. Hume, MD, who came to the Medical College of Virginia in 1956 as McGuire Professor of Surgery and at MCV was centrally instrumental in developing a transplant program of such formidable caliber that it gave rise to the heart transplant experience described elsewhere in this issue. Dr. Hume published the findings of his six pioneering kidney transplants in the *Journal of Clinical Investigations* in 1952; his report remains a classic in the literature.

The Herrick transplant led to an estimated 30,000 kidney transplants from 1954 to 1979, most of them in the past ten years.

Photograph from the Harvard Medical School; reproduced by permission. A.G.

VIRGINIA MEDICAL
EDITORIAL

The Heart Saga

THE HEART has given up its secrets of character, function, and structure reluctantly, and this in spite of the highest degree of attention paid it by the brightest of people of every age.

For years attention was focused on the idea that the heart determined character, revealed mood and emotion, and was the seat of attitudes of mind and spirit. So the Old Testament prophet, Jeremiah, pronounced, "The heart is deceitful above all things, and desperately wicked"; King David cried out, "Create in me a clean heart, O God"; and Jesus comforted, "Let not your hearts be troubled. . . ." Aristotle concluded, "The motions of pain and pleasure, and generally of all sensation, plainly start from the heart and find in it their ultimate termination. This, indeed, reason would lead us to expect." With such powerful origins there is little wonder that our thinking and our language is replete with references to the heart as bound up with bravery or cowardice, joy or sorrow, love or hate, purity or evil, understanding or insensitivity, penitence or impenitence, compassion or ruthlessness, benevolence or malevolence; and that Wordsworth chose this organ to describe ecstasy, "My heart leaps up . . ."

The function and structure of the heart was quite resistant to all efforts at understanding it. But this was not for want of trying—the Alexandrian physician, Herophilos, an early anatomist and physiologist, was accused of opening the body cavities of 600 living criminals. Observations of the heart and circulation were found in a Chinese medical treatise c. 2697 BC; and Hippocrates, Aristotle, Proxagoras, Erasistratos and Galen are but some of the brilliant ancients whose writings contribute to the sum of human knowledge, but add little to an understanding of the structure and function of the heart. With many variations, it was thought that blood ebbed from the liver to be warmed by the heart and fanned and cooled by the lungs.

William Harvey finally resolved the riddle, and, in "De Motu Cordia," published in 1628, laid the foundation for our knowledge today. His success was achieved only after great effort, however, for he wrote, "When I first gave my mind to vivisection as a means of discovering the motions and uses of the heart, and sought to discover these from actual inspection and not from the writings of others, I found the task so truly arduous, so full of difficulties, that I was almost tempted to think with Fracastorius, that the motion of the heart was only to be comprehended by God."

Continuing and extensive research since Harvey's time has further substantiated that the heart, after all, is just a pump—but what a pump! It is self-starting and regulated by means of remarkably complex and precise control mechanisms. It has the capacity to vary its rate from 50 to 200, and its minute volume from 5L to 35L. It works ceaselessly from birth to death, beating many billions of times. It is an unpaired organ whose continuous, uninterrupted pulsing is essential for life.

There is small wonder, then, that the world was

electrified by the stunning news on December 3, 1967, that Christiaan Barnard had successfully transplanted a human heart. It only adds to the magnitude of the achievement to recognize that this was no isolated event; rather it was the culmination of the efforts of multitudes of others—of the ancients misdirected as they were, of Harvey, Withering, Jenner, Reverdin, Carrel, and the dedicated investigators of our day, some of whom were themselves on the threshhold of accomplishing this feat.

In this issue of VIRGINIA MEDICAL, Hastillo, Hess, Wolfgang and Lower describe their experience with cardiac transplantation at the Medical College of Virginia and document the significant progress made in surgical technique, immunosuppressive treatment and care of the post-transplant patients. It is an impressive delineation, and shows clearly that cardiac transplantation is proving to be the treatment of choice for selected patients at MCV. Continuing progress in this field should make cardiac transplantation a more feasible treatment method for more patients at more medical centers.

Down the road yet is the development of a mechanical pump to replace a worn-out heart. This would obviate the problems inherent in the transplant of an essential unpaired organ, and those arising from rejection of foreign tissue. Yet the creation of a mechanical pump that could meet the majestic capabilities of the heart is an awesome task far beyond present-day human capacity. It would have to be small, light, and durable; be free of antigenicity, of damage to blood elements and of involvement in a clotting or atherosclerotic process; incorporate a never-failing and powerful energy source; supply continuing rhythmic pulsations; and provide variable output related to demand.

Should this ultimate goal of treatment for heart failure be achieved and a mechanical pump could supplant the human heart, we would then have the answer to the final enigma. Albeit with tongue in cheek, we could ask, "Is the heart really just a pump, or is there more to it?" Can there yet be found some communication between heart and mind and spirit so that in truth the heart may have to do with the qualities and character ascribed to it through the ages?

W. T. THOMPSON, JR., MD

"That is where the battles of the 1980s will be won or lost."

As we enter the 1980s, we physicians would do well to look back on our accomplishments and to reflect on both our accomplisments and the problems which will continue to cause concern, distress and confusion within the medical profession.

On the positive side, there are many things in which we can take pride.

We can be proud of the tremendous scientific progress that has been made, such as CAT scanners, ultrasound, coronary bypass operations, kidney dialysis, joint replacement and, in genetics, chromosome studies, amnioscentisis and test tube babies. Also the new drugs for mental illnesses—in fact, all chemotherapy.

We can be proud of the continued strong relationship we doctors have with hospitals, nurses and other medical personnel.

But there are some things that worry me—developments detrimental to our profession and to the patients we serve.

Presented in slightly different form as the presidential address before the Richmond Academy of Medicine on January 8, 1980.

For instance, we have seen the total health care cost bill in this country increase from almost 75 billion in 1970 to more than 192 billion in 1979. Think of that! In 1979 alone the cost of Medicaid and Medicare was 37 billion dollars.

We have seen the Department of Health, Education and Welfare issue literally hundreds of new rules, regulations and requirements. We have seen them expand their control of the health care process. Although HEW is changing its name to the Department of Health and Human Resources, there is no reason to expect any change in its goals nor the pace at which it is moving to seize control of this nation's system of health care.

Then look at the emergence of health maintenance organizations and health systems agencies. Today we see HEW readily dispensing grants of $75,000 and $200,000 and making special allowances in the law to foster the development of HMOs. We have seen the HSA system, originally designed to encourage citizen involvement in health planning, transformed into a more centralized structure in which criteria and guidelines are prepared in Washington.

On another front, we have the Federal Trade Commission looking hard and fast at our profession. Recently, they decided our long-established code of ethics regarding advertising was not in the best interest of the American public. In their inifinite wisdom they have decided that advertising is a good way to assure that quality of health care.

Furthermore, we have a situation in which both President Carter and Senator Kennedy have major health insurance programs before Congress. Other major health related bills in the hopper include the Health Security Act, castastrophic insurance, the Medical Assistance Act of 1979, Health Incentives Reform Act of 1979 and the Comprehensive Health Reform Act. In fact, during the first nine months of last year one congressional committee alone took under consideration 400 health-related bills!

These are but a few of the outside forces and problems that have emerged in the 1970s and will continue to confront our profession in the 1980s. I am convinced that the time is long past when we can ignore these threats and hope they will go away. In fact, I will tell you frankly that I think the apathy and lack of attention to these issues in the past is a major reason they have the strength they do today.

So what can we do about them?

First, we can no longer be complacent. We can no longer be uninformed and we can no longer stick our heads in the sand. Instead, we must join together and use our intelligence, our skills, our energy and our other resources to assure that the quality of medicine practiced in this country remains high, that the trend toward greater government involvement is tempered and that public attitudes toward health care are changed. At times such as this I think it would do all of good to reflect on our medical school days and on the dedication and just plain hard work it required for each of us to become accomplished in our profession. It's going to take the same kind of dedication and energy to start turning things around in health care.

How do we do this?

Two of the mightiest resources we have are education and communication. These resources are not new. We have had them all along. But we have not used them well.

Too many physicians are uninformed about the political, bureaucratic and public forces at work in our country. They are uninformed because we have done a poor job of educating and communicating.

This year, I am proud to say, the Richmond Academy's trustees have taken a giant step in attempting to correct this situation by creating a health planning coordinator position. The purpose of the health planning coordinator is to inform the membership of legislation and rules and regulations in the health planning field on the local, state and federal levels.

As president of the Richmond Academy, I intend to work diligently in the development of newsletters, fact sheets and pamphlets, and to see to it that this educational material is distributed to our members. The day has passed when this academy can be thought of as a social club. We must join together to educate and communicate with all physicians in this area.

But communication among ourselves is not enough. We must reach out into the community more, and this is the third and perhaps most important resource we have—personal involvement. As individuals and a profession we must do a better job of communicating with our patients and the public. That is where the battles of the 1980s will be won or lost. We most be more open and more sensitve to the growing public concern over rising health care costs. We must become more involved in the political process and with those who make decisions which affect our professions and the future direction of quality health care in this country.

There are several ways to better prepare ourselves for an increased public role. One is for the Richmond Academy to sponsor a communications seminar for the membership, featuring public communication specialists who will talk to us about how to deal more effectively with the public, the press, state legislators and health planners.

Second, we can recommend the form of a speaker's bureau to solicit public speaking opportunities for our members. I recognize that many of our members do speak to community groups from time to time, but I believe a formal program could assist members in developing speech material and enable us to reach many more groups.

Another positive step would be the development an distribution of educational materials on health care, costs, and other such matters. It is clear that the public is not getting the information it needs to make informed choices on many important health care matters. Furthermore, I believe we need to become more involved as a group in the health planning area.

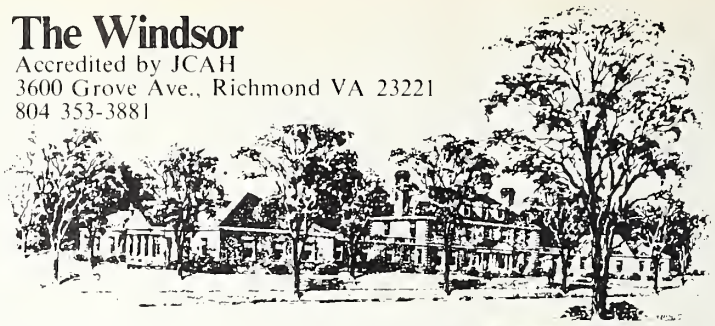
These are some of things I believe we need to initiate in the coming year. I welcome your ideas on other positive steps that we can take to communicate more effectively among ourselves, with our patients, and with the community.

CUSTIS L. COLEMAN, MD

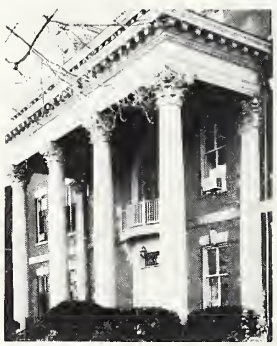
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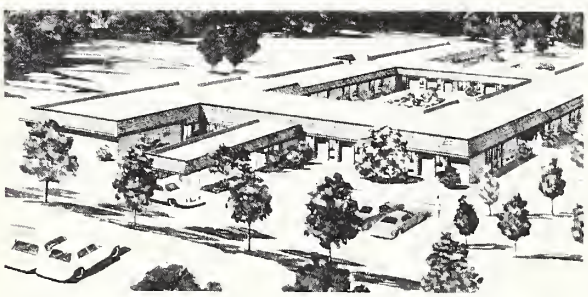
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VIRGINIA MEDICAL OBITUARY

C. H. Dawson, MD

Dr. Challis Haddon Dawson, retired family practitioner in Suffolk, died February 18 in a Portsmouth convalescent center. He was 87 years old.

A native of Scotland, Illinois, Dr. Dawson was graduated from Ohio State University's Starling Medical School. He went to Suffolk in 1926 to serve with the Tri-County Health Department and later entered private practice there. He was an Army lieutenant in World War I and a past commander of American Legion Post 57.

An accomplished artist, Dr. Dawson had exhibited his work in Norfolk and was a member of the American Physician Art Association, the National Amateurs Painters Competition and Allied Artists of America. He was a longtime member of The Medical Society of Virginia and belonged also to the American Academy of Family Physicians.

Fred S. Booth, MD

Dr. Fred Stone Booth, family practitioner in Wise, Virginia, was fatally wounded February 24 when the shotgun he was cleaning discharged, firing into his chest. He was 49 years old.

Dr. Booth received his pre-medical education at Vanderbilt University, was graduated from the University of Tennessee Medical School in Memphis and trained at Nashville Metropolitan General Hospital. At the time of his death he was chief of medicine at the Norton Community Hospital. He belonged to The Medical Society of Virginia, Wise County Medical Society, American Medical Association and American Academy of Family Physicians.

Harry P. Williams, MD

Dr. Harry P. Williams, general practitioner in Martinsville for more than 50 years, died February 27 at Howard University in Washington, DC. He was 78 years old and had retired from practice last fall because of ill health. A native of Danville, Dr. Williams earned his medical degree at the College of Medicine of Howard University. He was a World War II veteran, a leader in the civil rights movement, and served on the staff of St. Mary's Hospital in Martinsville.

Memoir of J. E. Stevens 1917-1979

By Hunter S. Jackson, MD, Julius C. Hulcher, MD, and Frank R. Kelly, Jr., MD

Dr. John Edgar Stevens passed away on December 16, 1979, at the age of 62.

Dr. Stevens was a native of Richmond and received a bachelor of science degree from the Univeristy of Richmond in 1937, and his MD degree from the Medical College of Virginia in 1941. He was elected AOA during his senior year. His internship was served at Stuart Circle Hospital in Richmond, Virginia, following which he entered the armed forces and served in the Army with the 80th Armored Medical Battalion of the 10th Armored Division for a time. He later became assistant physician of the contagion section of the Ft. Benning, Georgia, Hospital. He was discharged from the service with the rank of major. He served a fellowship in internal medicine and hematology at the Mayo Clinic from 1946 to 1949, at the conclusion of which he was awarded a master of science degree in medicine from the University of Minnesota.

Dr. Stevens was in private practice from 1949 to 1976. At that time he retired from private practice and had since been a member of the medical staff of the Powhatan Correctional Center and most recently a physician for the home office of the Ethyl Corporation. He was a member of the Richmond Academy of Medicine, the Richmond Society of Internal Medicine, The Medical Society of Virginia, the Southern Medical Association and the American Medical Association. He was a fellow of The American College of Physicians, and was certified by the Board of Internal Medicine.

He was a communicant of St. Stephen's Episcopal Church and was a 32nd Degree Mason and Shriner. He was an ardent fisherman and had been a member of the Isaac Walton league.

Ed Stevens set for himself the very highest standards of excellence in both his professional and personal life. He was well loved by his patients and by those of us who knew him best. He is survived by his wife, Mrs. Charlotte Mooers Stevens, two children and three grandchildren.

WHO'S WHO IN VIRGINIA MEDICINE

An opera composed by **Dr. James A. Cross,** *Abingdon*, is among the selected finalists in the New York City Opera Competition to be judged this month. Designed to find and produce a new opera by an American composer, the competition attracted 300 entries, of which 30 were chosen for final consideration by the judges, and reflects the New York City Opera Company's enhanced visibility under the direction of the popular opera star, Beverly Sills.

"Knossos", Dr. Cross titled his melodic, tonal opera, for its story is derived from the Greek myth about Theseus and the Minotaur, and the palace of Knossos on the island of Crete was the Minotaur's home (and also the seat of the legendary King Minos). Librettist for the opera was Dr. Cross' daughter, Ariadne Cross who at 19 is already a professionally experienced ballet dancer and singer, and intends to make her mark as a writer, too. Father and daughter plan to collaborate next on a musical in the lyric style of Broadway productions.

Born in New Jersey, Dr. Cross began composing as a child and learned to play the violin, cello and piano. But medicine looked good to him as a career, and he went to Washington University in St. Louis for his medical degree, graduating in 1959, then trained at the University of Rochester, New York. Military service took him to California, where he stayed, in family practice. He kept his musicality alive not only by composing but through working associations with the musical arts—as company physician for the San Diego Ballet Company, for instance. Then, in the mid-1970s, he began to yearn for a less crowded medical schedule, with more time for music, and two years ago he worked that out: He moved himself and his family to a home in Abingdon, where he composes "about 40% of the time", and his practice to Hanging Rock Clinic in St. Paul, Virginia, where he sees patients "about 60% of the time". With the larger time for composing goes the opportunity, too, to do the things that build a composer's reputation, i.e., enter contests, such as the New York City Opera one, and arrange for works to be heard, such as the recent performance of his quartet for strings at the University of East Tennessee.

Even if "Knossos" doesn't win a prize, its rank as a finalist carries exposure to recording companies, publishing houses and other opera companies, any of which could offer an avenue to its production.

During the annual scientific assembly of the American College of Chest Physicians in Houston late last year, fellowship was conferred on these two *Richmond* physicians: **Dr. Charles H. Robertson** and **Dr. George W. Vetrovec.**

Newly elected to fellowship in the American College of Physicians are **Dr. Steven M. Zimmet,** *Arlington,* and **Dr. Won R. Lee,** *Fairfax.*

Dr. Sukri Vanichkachorn, *South Hill,* and **Dr. David M. Snyder,** *Warrenton,* were inducted as fellows of the American Academy of Orthopaedic Surgeons at its recent annual meeting in Atlanta, Georgia.

Dr. John B. Catlett, *Richmond,* was named president elect and **Dr. George L. Fischer,** *Clifton Forge,* was elected secretary-treasurer at a recent meeting of the Virginia Society of Internal Medicine. **Dr. Steven M. Zimmet,** *Arlington,* was installed as president.

The Society's Recognition Award was conferred on **Dr. Thomas E. Donnelly,** *Roanoke,* for his service as the group's secretary-treasurer for the past three years. Dr. Donnelly is a past president of the Southwestern Virginia Medical Society.



His opera scores: Dr. Cross. *Photo courtesy the Washington County News.*

WHO'S WHO IN VIRGINIA MEDICINE

About once a month, **Dr. N. Turner Gray** of *Virginia Beach* flees the press of sore throats and booster shots in his office and takes to the road at the wheel of a big tractor-trailer. Pediatrician Gray becomes Trucker Gray, for fun and for free.

"I like to be off and alone," Dr. Gray is quoted as saying in a feature story in the *Norfolk Ledger-Star*. "I've always liked to drive. I enjoy meeting people and seeing a part of America I wouldn't see in my profession."

Dr. Gray started driving tractor-trailers to pay his way through Randolph Macon College 20 years ago; he hauled truckloads of fish south and watermelons and oranges north. Later, while earning his medical degree at the Medical College of Virginia, he drove for Old Dominion Freight Lines. Then he left the open road behind, did a stint in the military, and set up practice as a pediatrician (and recently also took on the post of Virginia Beach's medical examiner). But in the summer of 1978 he saw a big rig parked in Virginia Beach, went to admire it, and met the owner, Richard Davis.

"He was going to bobtail [drive without a trailer] to Durham, North Carolina, the next day and bring a trailer back," Dr. Gray remembers. "He asked if I'd like to go." The next day was the Fourth of July, and the two men hit the road. When, on Davis' invitation, Dr. Gray took the wheel for a while, Davis was so impressed with the doctor's driving that he climbed into the sleeper and went to sleep, the ultimate compliment, and he's been entrusting his rigs to Dr. Gray ever since.

The Peterbilt tractor shown in the picture on this page is typical of the huge rigs Dr. Gray drives, hauling produce and heavy equipment to destinations as far away as Texas. He doesn't get paid for the trips, but that's the way he wants it. "It's strictly a hobby," he says. "It's a good feeling to be allowed to drive." He makes runs as often as he can, on weekends, but is careful not to let them interfere with either his practice or his family. His wife supports the unusual hobby, and once in a while their 15-year-old son goes along for the ride. The collection of toy trucks in his pediatrics office reflects his weekend therapy, and he tinkers with automobile engines in a custom-built bay of the garage of his Virginia Beach home.



His specialties are pediatrics and Peterbilts: Dr. Gray.

A native Virginian, Dr. Gray is the son of Mr. and Mrs. Stanley T. Gray of Gloucester. Mr. Stanley Gray, a graduate of the Medical College of Virginia School of Pharmacy, retired late last year after 55 years of pharmacological practice.

New president of the medical staff of the Alexandria Hospital is **Dr. Richard H. Ryan,** *Alexandria*; in *Staunton*, **Dr. William C. Branscome** was elected president of the medical staff of King's Daughters' Hospital; and **Dr. David W. MacMillan,** *Richmond*, was reelected chief of the medical staff of the Richmond Eye and Ear Hospital.

For her leadership in projecting Northern Virginia's first hospice, **Dr. Josefina B. Magno,** *Arlington*, was given the 1980 Women of Achievement Award conferred annually by WETA, the area's public broadcasting television station. Dr. Magno, a member of the Georgetown University faculty, is national coordinator of the National Hospice Organization and medical director of the Northern Virginia branch, which is working toward facilities for a 15-bed hospice in Arlington County. Local government agencies are contributing funds toward the hospice, and a small building is being renovated.

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Nuclear Medicine	Oakland	1

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Orthopedics	Portsmouth, Oakland	2
ENT	Bethesda, Oakland	2,3,4,5
Pathology	Oakland, San Diego	1,2
Pediatrics	Portsmouth	2,3
Psychiatry	Portsmouth	2,3,4
Radiology	Bethesda, San Diego	4
Urology	Bethesda, Portsmouth	2,4
Aerospace Med	Pensacola	2,3,4

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For more information contact Mr. Dick Kurtich, 1-800-552-9947 toll free or (803) 270-9174 collect.

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Prescribe Yourself a Restful Drive

"YOUR vacation plan sounds great," I remarked to the surgeon's wife after giving her two children their annual checkup. Michael and Mary Ann had chattered nonstop about their upcoming trip to their grandfather's ranch in Missouri.

"I hate the thought of that ride," said their mother. "George insists on driving too long every day. He usually winds up with a headache, sore back, and lousy disposition."

I know George Bronson pretty well; nobody plans a surgical operation with more care than he does. Yet like many doctors, he's prepared to undertake a long car trip with little or no planning. It took me years of driving like George Bronson before I worked out routines that allow me to drive in ease and safety with minimal discomfort.

Here are my suggestions:

Rest your eyes. Use plenty of glare protection. A tinted windshield and photochromic lenses just aren't enough on a brilliant day. Keep a pair of slip-on dark glasses in your pocket and use them whenever the sun is shining.

Rest your lungs. Don't let anybody smoke during the trip. Not only will your respiratory tract feel the effect of smoking with the windows closed, but you could become dangerously groggy.

Rest your back. On average trips, tuck a foam pillow behind the small of your back. If I forget mine, my slumping back feels the difference in two hours.

Rest your bottom. Consider an airflow cushion in

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warm weather. In a hot car you can get a case of the sweaty-trouser syndrome before the air-conditioner starts to overcome the heat and humidity.

Pacify your stomach. Remember how tired and snappish everybody gets when you're hunting a good place for lunch or supper? Take snacks and a cool drink in a Thermos.

Rest your driving leg. My limiting factor on any long drive was always fatigue and eventually cramps in my right thigh. The invention of cruise control solved all that. With my gadget, you push a little button in the end of the turn-signal handle as soon as you reach preferred speed. The control will keep you there, uphill and down.

Rest your legs and feet. Light support socks will prevent puffy feet at the end of the day. Slippers feel good. I keep an old pair in the car all the time.

Rest your whole body. Napping while someone else drives isn't very restful if you're sitting up with your head either bobbing around or bumping the door frame. Throw an old pillow in the car for nestling your head. You'll be more refreshed for your next stint at the wheel.

Keep your mind alert. My best weapon against becoming drowsy is a cassette recorder with interesting medical tapes.

My methods of alert yet restful driving may not suit everybody. You can work out your own. The important thing is to be as professional about your driving as you are about your practice. In both situations, lives are at stake.

Forrest P. White, MD
330 West Brambleton Avenue
Norfolk VA 23510

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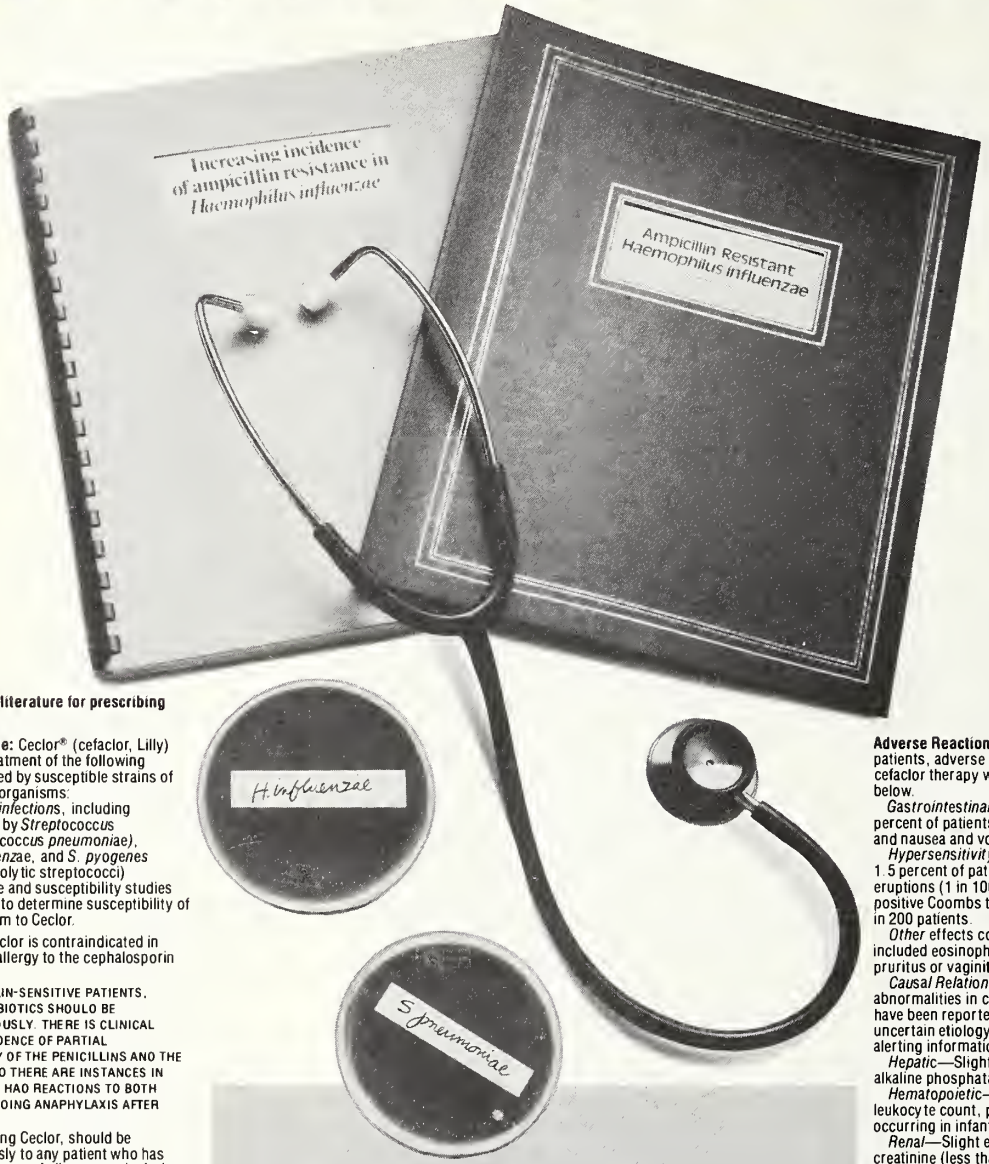
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An added complication... in the treatment of bacterial bronchitis*



Brief Summary.
Consult the package literature for prescribing information.

Indications and Usage: Ceclor® (cefaclor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms:

Lower respiratory infections, including pneumonia caused by *Streptococcus pneumoniae (Diplococcus pneumoniae)*, *Haemophilus influenzae*, and *S. pyogenes* (group A beta-hemolytic streptococci)

Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Ceclor.

Contraindication: Ceclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics.

Warnings: IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY. THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS TO BOTH DRUG CLASSES (INCLUDING ANAPHYLAXIS AFTER PARENTERAL USE).

Antibiotics, including Ceclor, should be administered cautiously to any patient who has demonstrated some form of allergy, particularly to drugs.

Precautions: If an allergic reaction to cefaclor occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e.g., pressor amines, antihistamines, or corticosteroids.

Prolonged use of cefaclor may result in the overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Positive direct Coombs tests have been reported during treatment with the cephalosporin antibiotics. In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs test may be due to the drug.

Ceclor should be administered with caution in the presence of markedly impaired renal function. Under such a condition, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended.

Usage in Pregnancy—Although no teratogenic or antifertility effects were seen in reproduction studies in mice and rats receiving up to 12 times the maximum human dose or in ferrets given three times the maximum human dose, the safety of this drug for use in human pregnancy has not been established. The benefits of the drug in pregnant women should be weighed against a possible risk to the fetus.

Usage in Infancy—Safety of this product for use in infants less than one month of age has not been established.

Adverse Reactions: In clinical studies in 1493 patients, adverse effects considered related to cefaclor therapy were uncommon and are listed below.

Gastrointestinal symptoms occurred in about 2.5 percent of patients and included diarrhea (1 in 70) and nausea and vomiting (1 in 90).

Hypersensitivity reactions were reported in about 1.5 percent of patients and included morbilliform eruptions (1 in 100). Pruritus, urticaria, and positive Coombs tests each occurred in less than 1 in 200 patients.

Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients).

Causal Relationship Uncertain—Transitory abnormalities in clinical laboratory tests results have been reported. Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician.

Hepatic—Slight elevations in SGDT, SGPT, or alkaline phosphatase values (1 in 40).

Hematopoietic—Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40).

Renal—Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200). [070379R]

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*Many authorities attribute acute infectious exacerbation of chronic bronchitis to either *S. pneumoniae* or *H. influenzae*.[8]

Note: Ceclor® (cefaclor) is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients.

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information.

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Additional information available to the profession on request from Eli Lilly and Company, Indianapolis, Indiana 46285.

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LETTERS TO THE EDITOR

An Orthopedist's View Of "Orthopedic" Mattresses

Recently I read an article concerning "orthopedic mattresses". I am in disagreement with the term "orthopedic mattress", since it implies that it is good for patients who have troubles of an orthopedic nature, and I have come to question the desirability of an "orthopedic mattress".

What is an orthopedic mattress, or what should it be? The general definition in the past has been a mattress that is firm; following this definition, the concept of what a firm mattress is seems to have gotten out of hand. During the past several years I have had the opportunity to sleep on mattresses in many different hotels in many different nations, from Montevideo to Lake Louise to Johannesburg, Siri Lanka, Tashkent, Australia, Alaska and even Richmond, Virginia. It seems to me that the hotels of this world are in a contest to see which once can outdo the other in obtaining a "firm" mattress.

After sleeping on some of the so-called firm beds, I began to feel delighted when I found a bed that was softer, the reason being that I would wake up in the middle of the night and find that the trochanteric area of my hip was sore. In order to relieve this, I would frequently take one of the blankets from the closet, fold it into several layers and put it under the sheet, so that the bed would be softer. But when I would arrive back at the hotel at night, the blanket would be removed and placed back in the closet, and I would have to do it all over again. At the American Staffhouse in Kabul, Afghanistan, I was moving into another room which I was delighted to see had a sagging bed, when the house attendant informed me that the bed wasn't any good, and on returning in the evening, I was disappointed to see that he had removed it and placed in its stead a bed with a hard, firm mattress.

After surviving nights of discomfort in many hotels, I found that I could sleep on my back and be fairly comfortable for a while; but, after turning over on my side, I would end up with a sore hip again, unless I folded a blanket and put it under the sheet. This was true even at the Intercontinental Hotel in Manila, which is one of the nicest hotels as far as service is concerned that my wife and I have ever run into. (The service was similar to the Siam Intercontinental in Bangkok, Thailand, where there would be a bowl of native fruits in your room when you arrived, with a card on the table welcoming you to the hotel. When my wife lifted up the receiver to make a call, the operator said, "Good morning, Mrs. Kirk, how are you?" This is great after a long, tiring trip.)

But back to mattresses. We have found, in agreement with some others, that a camper's mattress partly filled with water, but not enough to make the patient float completely off the regular mattress, will prevent 75% of the normal incidence of bed sores.

As far as firm mattresses are concerned, it is my firm opinion that they may cause as much trouble as they relieve, in that when they become too firm for other areas of the body they may cause soreness of shoulders and hips. And even though a firm bed is good for the back, there is a limit to the firmness that is required. I have found that a 1- or 2-inch foam cushion under the sheet will give much more relaxed sleep, particularly if the sleeper has hip or shoulder soreness from a hard mattress.

Altogether, it is my conviction that a mattress may be firm, but it also needs some softness, which can

help prevent bed sores from lying too long in one position. So let's put the term "orthopedic mattress" in its proper light, and let's not overdo it.

A. A. Kirk, MD

Orthopaedic Surgery, Ltd.
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Portsmouth VA 23707

Regrets Omitting An Acknowledgment

There was an omission in the acknowledgment of the source of Figures 4 and 8 in "Grand Rounds: Diagnosis and Management of Renavascular Hypertension" published in VIRGINIA MEDICAL of November 1979, pages 809-818. The manuscript should have acknowledged these figures as follows: C. J. Tegtmeyer, E. A. Latour, E. D. Vaughan, Jr., C. R. Ayers, R. M. Carey, and H. A. Wellons, Jr.: Clinical Experience with Saralasin Infusion in Hypertension Patients. Investigative Radiology 12:496–504, 1977.

I would appreciate your printing this acknowledgment in a coming issue.

Robert M. Carey, MD
University of Virginia School of Medicine
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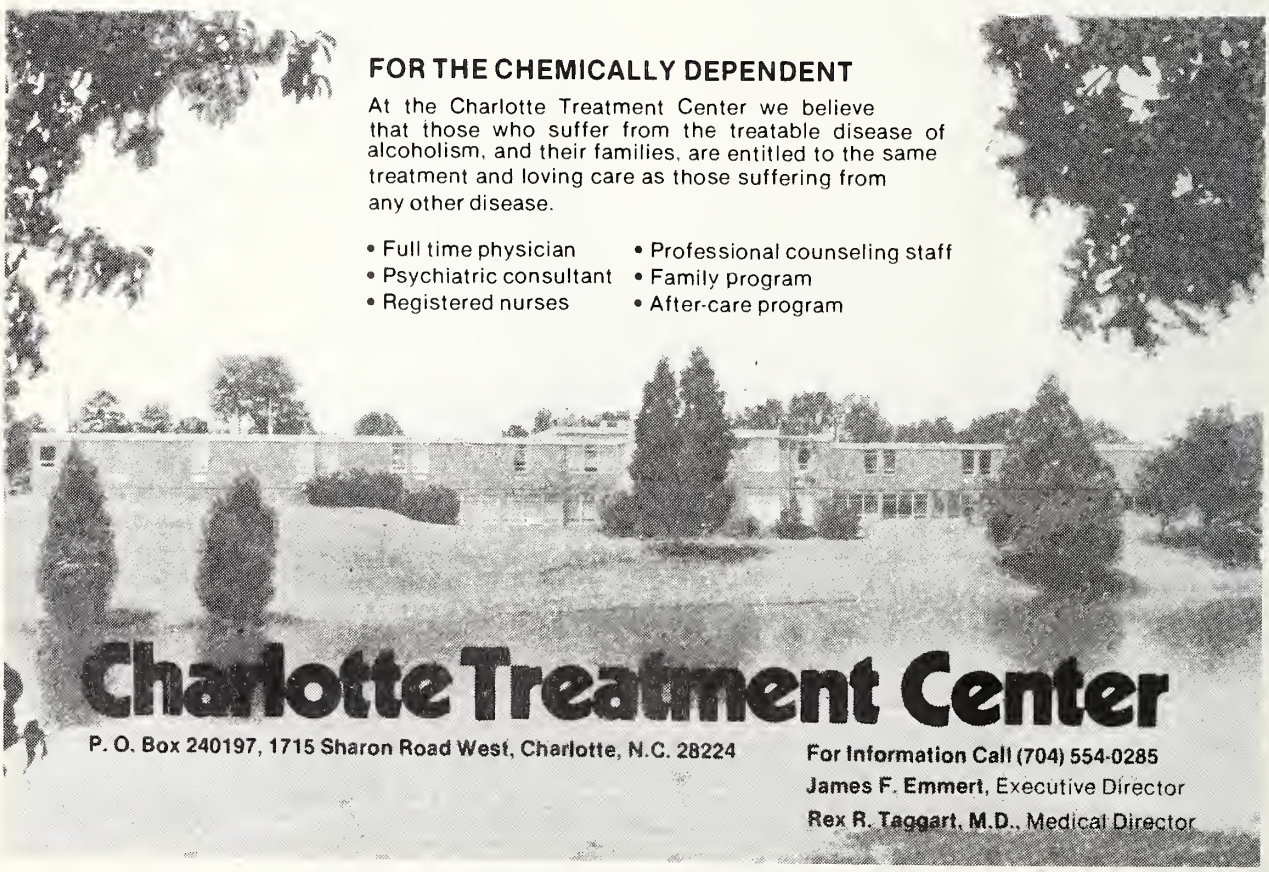
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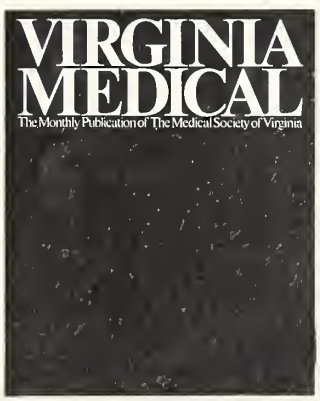
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MEETINGS

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Dermatology for Non-Dermatologists, 5th Annual Course (Duke University), *Asheville, North Carolina.* Cat. I and AAFP credits. Gerald S. Lazarus, Box 2987, Duke University Medical Center, Durham NC 27710, (919) 684-2504.

June 13-14
5th Annual Meeting of the Virginia Psychoanalytic Society, with Harold F. Searles, MD, lecturer, Hilton Inn, *Virginia Beach.* Terry C. Rodgers, MD, 330 W. Brambleton Ave., Norfolk VA 23510.

June 13-14
Cytology of the Female Genital Tract (American Cancer Society, American Society of Cytology, Charleston Area Medical Center), *Charleston, West Virginia.* Department of Pathology, Charleston Area Medical Center, Charleston WV 25325.

June 13-14
Annual Meeting, Virginia Society of Hematology, Cavalier Hotel, *Virginia Beach VA.* 7 hrs. Cat. 1. Registration Fee $8.00.

June 13-15
EKG Interpretation and Arrhythmia Management (International Medical Education Corporation), Pinehurst Country Club, *Pinehurst NC.* 15 hrs Cat. 1 AMA; AAFP contact sponsor for details; 13 hrs. Cat. 1 ACEP. Fee $215. IMEC (800) 525-8646.

June 14
Advances in Internal Medicine (Lewis-Gale Medical Foundation), Lewis-Gale Hospital, *Salem.* Dr. Robert F. Roth, (703) 389-9107.

June 15-17
Annual Meeting, American Diabetes Association, Sheraton-Park Hotel, *Washington DC.* American Diabetes Association, 600 Fifth Avenue, New York 10020.

June 18-21
4th Annual Virginia Beach Update in Neuroscience (Medical College of Virginia), Sheraton-Beach Inn, *Virginia Beach.* 16½ hrs Cat. 1 AMA; 1.6 C.E.U.'s; AAFP applied for. Kathy E. Johnson, Dept. of CME, Box 48, MCV Station, Richmond, VA 23298, (804) 786-0494.

June 19-22
Annual Meeting, Seaboard Medical Association of Virginia and North Carolina, Holiday Inn, *Kill Devil Hills, NC.* Mrs. Annette Boutwell, (919) 821-2226.

June 20-22
Coronary Disease, Exercise Testing and Cardiac Rehabilitation (International Medical Education Corporation), Inn on the Park, *Toronto, Canada.* 13 hrs Cat. 1 AMA, AAFP. Fee $215. IMEC, (800) 525-8646.

June 20-22
85th Annual Session of the Seaboard Medical Association, Holiday Inn, *Kill Devil Hills, North Carolina.* Mrs. Annette S. Boutwell, PO Box 10387, Raleigh NC 27605.

June 22-26
Contemporary Clinical Neurology (Vanderbilt School of Medicine), *Nashville, Tennessee.* 16 hrs. Cat. I. Marilyn Short, 3200 West End Ave., Nashville TN 37203, (615) 322-7311.

July 31-August 2
2nd Annual Sports Medicine Clinic (Medical College of Virginia), *Richmond.* Cat. I credits. Erma Blanchard, Dept. of CME, Box 48, MCV Station, Richmond VA 23298, (804) 786-0494.

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These Medical Society of Virginia member



Arthur A. Kirk, MD, Portsmouth (left), and Robert P. Nirschl, MD, Arlington



Emory F. Hodges, Jr., MD, Alexandria



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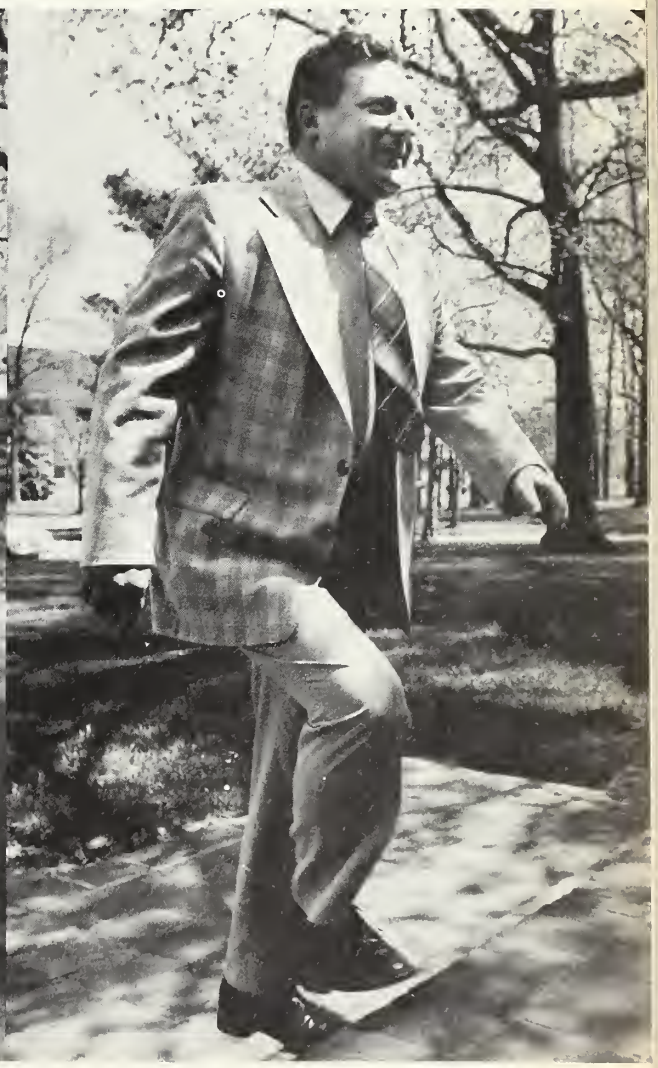
e going to hear spokesmen for the Republican and



Harry C. Kuykendall, MD,
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John A. Rawls, MD,
Richmond

Democratic parties offer some political prescription



Leon I. Bloch, MD,
Falls Church

Clarke Russ, Jr., MD,
Virginia Beach

Robert W. Preston, MD,
Harrisonburg

ad all about it.

By Carl L. Shires

VIRGINIA PHYSICIANS were treated to some diagnostic political forecasts, surgically sharp election insights, and prescriptions for preventing adverse legislation at a recent luncheon at Medical Society of Virginia headquarters in Richmond.

The VaMPAC-sponsored luncheon was put together expressly for those doctors who have signified political interest and awareness by joining the Pac 250 Club.

From one of their own, physician/politico Alfred B. Cramer III, MD, came the prescription for preventing adverse legislation. His Rx: "Talk politics. Talk them during rounds, talk them at meetings, talk them during professional consultations. Get active, get to work, help determine both who runs and who wins."

A man whose medical practice and professionalism has not atrophied from energy-consuming, intensive-care political activity, the Culpeper internist cited Virginia as the state set to show the way toward Republican (conservative) control of the United States Congress. Dr. Cramer is chairman of the Virginia Republican Party.

His luncheon speaker counterpart, lawyer/politico Angus Macaulay, Richmond Democrat, furnished attentive physician listeners and their wives with some news that had not yet made the pages or airwaves of daily media: He hinted broadly of a planned purge of some liberal Democrats from leadership roles in the state's Democratic party.

This news came almost parenthetically when Macaulay concluded remarks geared toward convincing his audience that all Virginia's Democrats are not wild-eyed liberals with this observation:



Harry B. Taylor, Jr., MD, Norfolk; Charles A. Young, Jr., MD, Roanoke; and Andrew J. Sheridan, MD, Arlington.

Photographs by Melissa Grimes



Alfred B. Cramer III, MD, Culpeper, chairman of the Virginia Republican party, with Barbara A. Mella, MD, Fairfax.

"I think I can assure you that some of the people who have been an embarrassment to us might not be around much longer." Queried for elaboration on that remark, Macaulay would add only that "You should watch for news concerning George Rawlings and Ruth Charity." Those two are, respectively, Democratic National Committeeman and Committeewoman from Virginia. Each is considered cast in the liberal mold.

The "Virginia-can-show-the-way" remarks from Dr. Cramer came during his assessment of coming congressional elections in November. Dr. Cramer said he sees the potential from those elections for Virginia Republicans to hold nine of the ten seats in the US House of Representatives (the current ratio is 6-4, GOP).

Realistically, he estimated afterward, "There will be a certain seven and perhaps up to nine." That would leave him conceding conservative Democrat W. C. Daniel of the Southside 5th district as the only certain Democrat winner.

"If each state would elect one more Republican, then the House would come under Republican control," he added. "The liberal nature of that body would be turned around . . . for us, for many persons, the congressional elections are more important than the presidential one."

He described the retiring 3rd District congressman, Democrat David E. Satterfield III, as "excellent, able, and conservative . . . Trouble is, he sat with the Democratic caucus." A Republican from the 3rd is in the offing come November, he said (former Richmond Mayor Thomas Bliley appears to have the GOP nomination in hand).

"That would be Virginia's share for the turn-around in Congress, but we'll do even better than that; we're gonna lick the hell out of the Democrats in Virginia."

Macaulay, long active in both local and state Democratic affairs, chose not to make a rebuttal prediction. "I really haven't studied it that closely," he told a VIRGINIA MEDICAL questioner, noting that he had been "pretty busy trying to find the right challenger to run against the Republican candidate for the Satterfield seat." Potential Democratic candidates have been dropping like maggots from an open sore in disavowing bids to run.

Macaulay, substituting at the luncheon for Democratic State Chairman Robert J. Davis, reminded his listeners that the Virginia General Assembly is a body not too influenced by the liberal elements of his party. "Down at the Capitol," he said, "a coalition of moderate-conservative Democrats is in control." (Whatever their suffix, Democrats are way out front. House roll call: 74 Democrats, 25 Republicans, 1 Independent. Senate roll call: 31 Democrats, 9 Republicans.)

Macaulay had one more observation for the PAC 250 Club members. "I would hope," he said, "when you're deciding whom to support, that you realize Democrats are not necessarily liberal."

That the doctors in his audience are politically interested and motivated was amply demonstrated simply through their coming. It was a beautiful spring day, one crying for activites of a different nature—addressing a golf ball, volleying on a

tennis court, tossing a line in the water, hoeing a garden . . .

Physicians can effectively combine politics with practice, Dr. Cramer told VIRGINIA MEDICAL in a pre-luncheon interview. "It is simply not that hard if you learn to budget your time," he explained. "Since I became Republican chairman (June, 1979), I have never had to cancel a day in my office . . . I have a very active and efficient staff in Richmond . . . Yes, I've actually had an increase in patients since I took over this particular political job. I've never had to turn a soul down, turn away a new patient. Basically, it has been a pleasant surprise in that I've just not found it necessary to go on the road all the time."

His predecessor, George N. McMath, Eastern Shore newspaper publisher, spent multiple days in travel. It was thought McMath had state political office ambitions; Dr. Cramer has manifested no such ambitions.

A straight-backed graduate of Virginia Military Institute and the Medical College of Virginia, Dr. Cramer was ultra-active in politics during medical school, internship and residency—and any physician knows those are busy times. Among the political aspirants for whom he has worked in their unsuccessful bids for congressional office from the 3rd District are a physician/colleague, Dr. Louis H. Williams (1962) and the late Richard D. Obenshain (1964).

Altogether, Dr. Cramer spent ten years in Richmond, including two in practice, prior to his move to Culpeper, and Richmond is like home ground for the Norfolk native. He rose through the ranks to the present party chairmanship, serving as 7th District GOP chairman for four years and as Western District vice chairman of the state GOP. McMath's unexpired term as state chairman, which Dr. Cramer filled, expires this summer; Dr. Cramer is odds-on favorite to succeed himself.



John A. Watters, Jr., MD, Hampton (left), with Angus H. Macaulay, chairman of the Democratic party for the 3rd District.

Why has Virginia been so predominately Republican in recent federal and gubernatorial elections and so predominantly Democratic at the state legislature level? he was asked. "Well, I'd be a real wizard if I could give a definite answer to that one; I guess it's just that nobody is really upset with the state government and the Democrats have been in control so long. It is enigmatic. Look at the Richmond area: The most Republican district in the whole state in statewide elections and yet only one (of 15) Republican member in the legislature."

Macaulay, diagnosing from a different professional discipline, said recent Democratic setbacks in Virginia could be attributed partly to the adage that "Extreme success breeds extreme complacency . . . We once were so dominant; now we're fighting to be equal."

Activist behind the luncheon at which Macaulay and Cramer spoke was W. Leonard Weyl, MD, chairman for 1980 of the Virginia Medical Political Action Committee. Dr. Weyl is waging a campaign to beef up the number of doctors who contribute $250 to VaMPAC's war chest (hence the "PAC 250 Club"). In July, PAC 250 members will receive invitations to a second luncheon—with Governor Dalton himself at the Governor's Mansion in Richmond. ■

Current Status of Psychosurgery

Jonathan G. Solomon, MD, *Hampton, Virginia*

Psychosurgery, which began in the 1930s with inflated expectations of treating mental illness, is unpopular now despite the introduction of modified surgical technics. Yet a recent study affirms that psychosurgery may be an effective treatment of last resort in some patients, with a low risk of adverse side effects. The author explores the role of psychosurgery today.

PSYCHOSURGERY, defined as the surgical destruction of certain portions of the brain for purposes of treating psychiatric conditions, was proposed by the Portugese neurologist Egas Moniz in 1935. The first attempt to ameliorate symptoms of severe mental illness with surgical methods was the frontal lobotomy, which consisted in the severing of connections between the thalamus and frontal lobes. Prefrontal lobotomy was introduced in a limited number of extremely deteriorated patients for whom no other therapy was beneficial. Before 1945, fewer than 1,000 lobotomies had been performed, but by 1950 5,000 were done annually. By one estimate, more than 100,000 patients throughout the world have received some form of brain surgery for mental or behavioral disorder.

The early hopes for lobotomy as a new and effective modality of treatment for the severely ill psychiatric patient were not fulfilled, however, and the practice became unpopular for several reasons. The results were often disappointing in terms of efficacy. Complications were frequent and included personality changes resulting from the more extensive procedures in use in the 1940s. Finally, the advent of modern psychopharmacology dramatically changed psychiatric practice. And so psychosurgery almost disappeared as a treatment modality for major mental illness by 1950.

Recent technical advances in neurosurgery, the availability of newer procedures, and reevaluations of previous studies of patients treated with psychosurgery have renewed interest. This communication reviews the state of the art of psychosurgery and includes discussion of surgical technics, efficacy of surgery, indications and criteria for patient selection, prognostic factors, outcome evaluation, complications and adverse effects, and ethical considerations.

Address correspondence to the author at Tower Box 44, 2101 Executive Drive, Hampton VA 23666.

Submitted 10-9-79.

Procedures

The original psychosurgery of the 1930s and 1940s was a bilateral prefrontal lobotomy ("leucotomy"). Freeman and Watts[1] introduced the transorbital technic, which required no opening of the skull but only a quick thrust of an instrument through the

thin, bony roof of the orbit, the so-called "icepick lobotomy." Technically this was an easy procedure, done even by psychiatrists, and involved the crude cutting of tracks of the frontal lobe. It was done under local anesthesia and was an office procedure, in which a probe was introduced into the orbit above the eyeball. Apart from blackened eyes and localized tenderness, there were few side-effects associated with this primitive operation. This procedure involved less destruction of frontal lobe connections and had a lower rate of morbidity than the standard lobotomy.

It became clear that only limited transections of cortical white matter were necessary to bring about the desired therapeutic result. Many technics were developed to transect the thalamofrontal fibers from the dorsomedial nucleus of the thalamus to the frontal poles. Recent evidence suggests that beneficial effects might be attributable to disconnecting relatively discrete functional areas of the orbital and medial frontal cortex from intermediate limbic circuits that lead to autonomic outflow pathways via the hypothalamus and brainstem[2,3]. Efforts are being made to attack these areas selectively to achieve therapeutic benefit without the adverse effects associated with inadvertant cutting of other fibers. Thus, the trend has clearly been toward less extensive procedures in an effort to avoid undesirable personality changes. Today the few lobotomies performed are usually carried out through open craniotomies and are performed by neurosurgeons. The transorbital lobotomy, the closed procedure initiated by Freeman and performed by non-surgeons, has been abandoned.

Modern procedures are more localized and less destructive. They interrupt neural pathways at various levels of the limbic system, a poorly-understood mediator of emotional life. Stereotaxic operations in various locations are the latest development; lesions produced in the cingulate or orbital regions do not appear to cause the severe emotional blunting seen commonly with the older and more extensive operations. Newer procedures include cingulectomy, topectomy, gyrectomy, and the bimedial leucotomy[4]. Open operations are performed with an osteoplastic flap and have no serious surgical complications[5]. These modified procedures are done either through an opening in the skull for direct observation or with stereotactic devices and x-rays, which permit visualization of the inserted instruments.

Efficacy

Arguments about the efficacy of psychosurgery are often based on studies using outdated procedures or inappropriate patient populations. The early procedures generally reduced unpleasant affect but had little effect on thought disorders.

To assess the outcome of psychosurgery, Riddle and Roberts[6] reanalyzed results of the Porteus maze tests, psychometric tests that are generally considered to measure foresight and judgment. They reported that the magnitude of changes in maze performance depended on the site of surgery and the length of time between surgery and testing. Thus, the more posterior the frontal lobe surgery, and the shorter the postoperative period, the greater the loss in maze test ability and presumably in higher cognitive functions. Losses following posterior frontal lobe surgery were considered permanent. In general, frontal lobe damage resulted in decreased maze ability. Most reviews of evaluative research on intellectual and cognitive changes following surgery, however, stress that little or no significant change was found. Neither basic intelligence nor memory is changed by pre-frontal leucotomy[7].

In one review of 43 private patients referred for bimedial pre-frontal lobotomy between 1948-1970, Bernstein and associates[7] stated that all 43 patients had been severely impaired by illness intractable to extensive non-surgical therapy. They reported that 35 became symptom-free after surgery, six were improved, and 2 unimproved. Post and associates[8] reported improvement in 40% of their subjects and deterioration in 8%. Shobe and Gildea[9] found improvement in 18 of their 27 patients. Similarly, Baker and associates[10] reported that 75% of their patients improved after surgery. Freeman[11] reported that 70% of schizophrenic, 80% of affective, and 90% of psychoneurotic patients were functioning outside of a hospital 5-10 years after lobotomy. Schere and associates[12] reported on psychological changes over a 5-year period following bilateral pre-frontal lobotomy and found that the lobotomy group was superior to the control group in level of functioning.

Indications

Authorities agree that the indications for patient selection are unclear. In this article, the focus is on the use of surgery to treat psychiatric syndromes rather than the more controversial areas of aggression or violent behavior. Some authors suggest that lobotomy has a place in treating selected cases of intractable mental disorder, e.g., chronically ill patients who are refractory to any other treatment[7]. Others are less conservative and feel patients need not be so ill and institutionalized that surgery is considered as a last desperate resort[13].

Although psychosurgery was originally employed in treating schizophrenia, the consensus seems to be

that lobotomy has little to offer in acute or chronic schizophrenia and certainly cannot reverse chronic deterioration[14]. The best results were with intractable depression, involutional melancholia and severe anxiety neurosis or obsessive-compulsive neurosis[15].

The consensus is that psychosurgery is not the treatment of choice for any psychiatric illness. To be considered for surgery, the patient should be unresponsive to all other appropriate psychiatric treatment modalities and to be so disabled that the potential hazards from surgery are exceeded by the disability from the illness. Lehmann and Ostrow[16] suggest four criteria for patient selection: 1) The disease should be a chronic tension state, anxiety, depression, or obsessive-compulsive neurosis; 2) the pre-morbid personality should be favorable with good psychosexual and work adaptation prior to illness; 3) the patient should have remained disabled for at least two years; and 4) the patient should be unresponsive to all other appropriate therapy, including psychotherapy, pharmacotherapy, and electroconvulsive therapy. Future studies may clarify these guidelines for patient selection.

Prognosis

In terms of diagnosis, Bernstein and associates[7] reported that the best results were obtained for hypochondriacal and obsessive-compulsive neurotic patients, especially those with phobic symptoms. Schizophrenics, particularly paranoid sub-types, had the poorest prognosis. Greenblatt[17] reported that hypochondriacal and obsessive-compulsive patients did best but that schizophrenic patients did poorly.

In terms of symptoms, those with emotional or affective loading, such as depression, agitation or tension, and also obsessive-compulsive symptoms, as well as some patients with intractable pain, often do best. Miller[18] stated that anxiety, fear, tension, guilt, feelings of inadequacy, self-destructive wishes and obsessions about personal failure tended to predict a good outcome. Post and associates[8] agreed and stated that negative variables include schizoid and paranoid features.

Pre-morbid personality characteristics of positive prognostic value are those associated with a compulsive personality. Higher socioeconomic level and more formal education correlated with a favorable prognosis; consequently, private patients did better than those in state hospitals. Middle-aged or older patients did better after surgery than younger patients. Duration of illness was significant; Post and associates[8] found that a severe illness lasting longer than two years prior to surgery was associated with an unfavorable outcome. Finally, most authors agree that a supportive social environment was crucial; thus the composite patient with a good prognosis was older, had a good pre-morbid adjustment and came from a higher socioeconomic level, had a supportive family, was disabled by a severe neurosis but not from schizophrenia, and was not chronically ill for longer than two years.

Complications

Postoperative effects include seizures, excessive weight-gain, organic brain syndrome and personality changes, including apathy, lethargy and fatigue. The "frontal lobe syndrome" of loss of initiative, amotivation, inappropriate joviality, loss of self-consciousness and social insensitivity appears in many patients. Seizures are the commonest surgical complication resulting from lobotomy. Their incidence varies with the population studied—12%[18], 26%[19], 21%[7]. Partridge[20] noted weight gain in 90% of 300 subjects, but followup revealed that only one-third of patients remained over-weight after the first postoperative year; Bernstein and associates[7] reported similar findings. In one study[7] of 46 patients, six (14%) developed an organic brain syndrome with confusion, disorientation, difficulty in thinking and shallow affect. Riddle and Roberts[6] confirmed that organicity did not persist and they found few reports of intellectual deterioration following the use of newer psychosurgical procedures. Most reviews of intellectual and cognitive changes following surgery found little or no significant change[21]. Baker and associates[10] concluded that neither basic intelligence nor memory were changed by pre-frontal leucotomy. Scherer and associates[12] compared a lobotomy cohort with a control group and found that the lobotomy group was superior when compared with preoperative levels of intellectual functioning. Some modified procedures using direct vision through burr holes have a mortality rate of 1.5%, a postoperative epilepsy rate of 16% and, impressively, only 5% development of adverse behavioral effects[21].

Ethics

The psychosurgery conflict is a classic example of the politicization of medicine. Extremists attack psychosurgery as behavior or mind control. A host of publications has appeared dealing with "mind control" and specifically involving psychosurgery[23-29]. There is a potential for social abuse, for example, with captive populations, such as those in prisons or mental hospitals and, some say, a potential for social control, especially of young people, women, blacks and those who express political or social dissent[30]. Bills have been introduced into Congress and the

California legislature to curtail the use of surgery.

There is an obvious problem in obtaining informed consent particularly with disabled or psychotic patients who are in emotional distress. They are obliged to make an informed and reasoned judgment involving brain surgery in the context of great personal suffering and their failure to respond to any other psychiatric treatment; patients may be understandably discouraged and grasp at psychosurgery as a desperate measure. This is hardly a time for reasoned, leisurely determination, since the patient is decompensated and in distress.

Compounding the problem is the disagreement about the nature and occurrence of adverse effects from surgery. Some critics oppose the destruction of brain tissue in the absence of demonstrable tissue pathology. Breggin[31] points out the wide variation in the indications and criteria that surgeons use in selecting cases and warns of possible abuses. Given the omnipresent consideration of malpractice litigation, a neurosurgeon would presumably take steps to obtain informed consent and to exhibit care in selecting cases and procedures. Perhaps a reasonable approach is that an intractably ill person who is disabled by mental illness but still able to give voluntary consent to a surgical procedure should not be denied the possibility of therapeutic benefit, especially when all other therapies have failed and when there is risk of suicide. Proponents of psychosurgery feel that arguments about its efficacy and ethics are often based on studies using outdated procedures and inappropriate patient populations. Surgery may well be reasonably indicated for the treatment of traditional mental disorders and psychiatric syndromes.

Most clinicians agree on the need to avoid abuses, minimize possible adverse effects of surgery, establish clearer indications and criteria for patient selection and clarify the difference between clinical investigation and experimentation. As for damaging brain tissues, new technics exist that permit the use of stereotaxic methods to locate specific sites within the brain. Psychosurgery might be undertaken only as an investigational procedure with institutional review as a safeguard against uninformed consent or abuses, with careful evaluation before and after surgery[32].

In perspective, psychiatrists and other physicians are not referring patients in great numbers to overeager neurosurgeons, since only 500 procedures are done annually in this country and only 5% of neurosurgeons engage in psychosurgery[30]. A recent survey[33] reports a low incidence of neurosurgery for psychiatric conditions, disputes the allegation of political abuse of psychosurgery and affirms that surgery may be an effective treatment of last resort in some patients and that the risk of adverse side effects is low. Considering the advances in the field, there may be some patients who might benefit from psychosurgery who are currently unresponsive to alternative modalities of treatment.

Continuing studies are indicated regarding the usefulness of surgery in treating psychiatric disorders. Research using Porteus maze tests and other intellectual, perceptual, cognitive, motor and personality measures can be used to make a continuing evaluation of the efficacy and usefulness of psychosurgery. Institutional and peer-review safeguards are recommended.

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COMMENT

The foregoing article's merits moved the Editors to send it for comment to Donald P. Becker, MD, chairman of the Division of Neurosurgery at the Medical College of Virginia, and are pleased here to publish his views.

Solomon presents a balanced and objective view on the current status of psychosurgery. Using modern techniques and limited, specifically placed, central nervous system lesions, certain patients with intractable psychiatric disorders can be helped. The principle is to destroy small brain areas, which will free the patient of the undesirable effects of abnormal central nervous system function. This is also done for intractable movement disorders and chronic pain states when medication or other therapy has failed. So it is with psychosurgery.

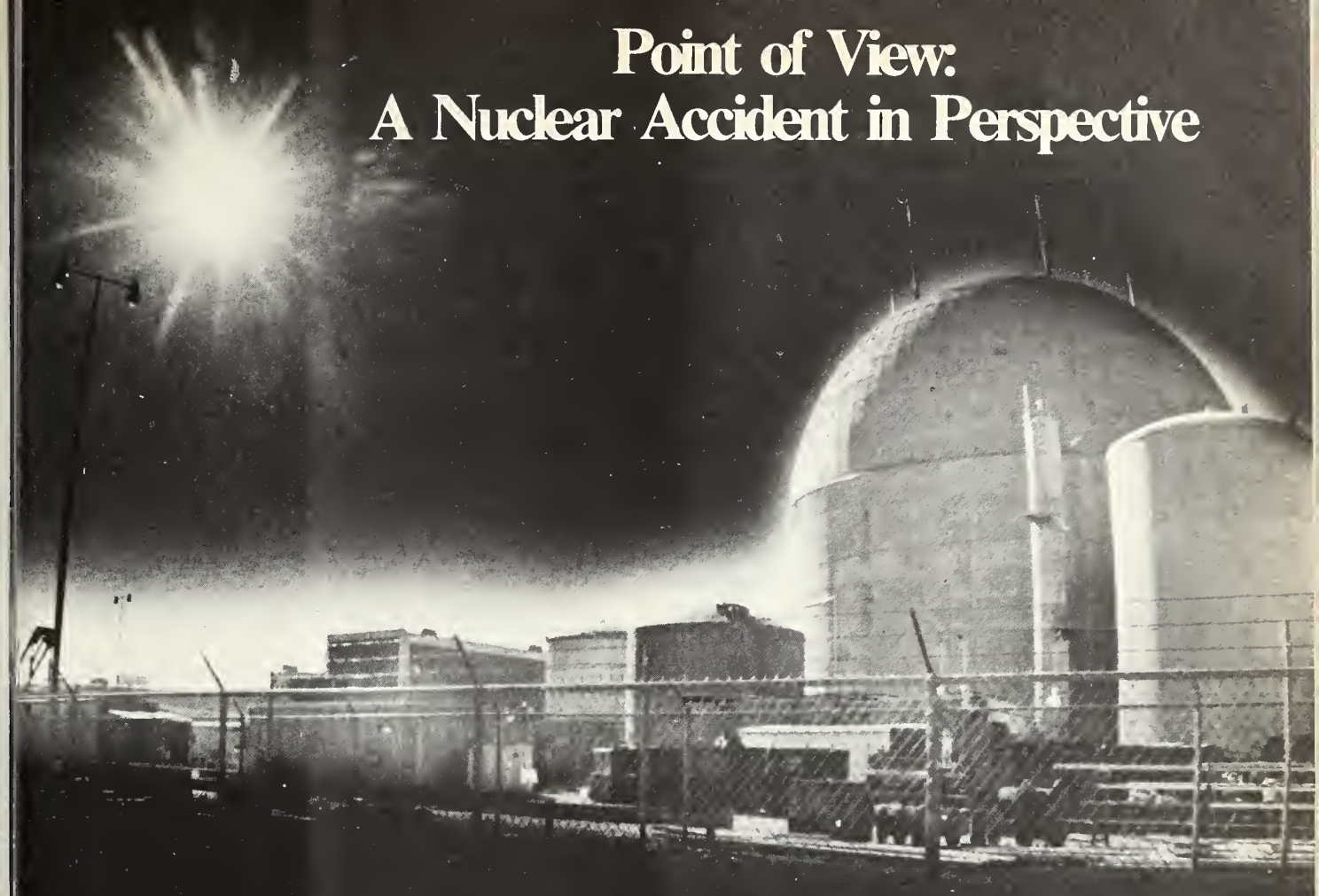
The course of events that have transpired with surgery for psychiatric disorders is similar to that of most new, successful therapeutic methods that are introduced. Initially the method is overused and even abused; physician reaction occurs, and the method is underutilized for a time; finally, experience and rationality lead to the method finding its proper indication, and frequency of utilization levels off. The intense opposition to psychosurgery in the last decade, while slowing development of this area, served a useful purpose in that it forced physicians to reflect carefully before subjecting a patient to a procedure in which a part of the brain is destroyed.

Solomon defines proper modern-day criteria for considering the use of this treatment. Peer review evaluation with careful documentation of followup results is imperative.

A final word of caution. The field of psychopharmacology is burgeoning presently at an enormous rate. New knowledge is being rapidly acquired, and new improved drug therapies are certain to follow. In this reviewer's opinion, only patients who are intractable to other therapy and are *severely* handicapped should be considered for this treatment. And then the surgeon should make the smallest lesion consistent with potential therapeutic benefit. With stereotaxic surgery the procedure can always be repeated and the lesion enlarged, if this is necessary.

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Point of View: A Nuclear Accident in Perspective



Examining data relating to the Three Mile Island accident, the authors contend that those living near the plant are at no significantly greater risk of cancer or genetic sequelae than any similar population in this country.

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For some time there has been an increasing public awareness of the danger that could result from the proliferation of nuclear reactors. Because the actual risks have been restricted to a few individuals involved in nuclear accidents, the risk/benefit evaluations have had a largely emotional bias, and a major proportion of the population has been uncertain as to both the extent of the risk and the consequences of exposure to ionizing radiation. This changed dramatically in March 1979 with the accident at Three Mile Island and the resulting national and international media coverage, with its political and economic repercussions.

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Photograph courtesy Richmond Newspapers, Inc.

The political and economic impact has been considered by appropriate authorities. Less public comment has been devoted to the factual basis of possible health hazards of the approximately 2,000,000 people who may or may not have been exposed to radiation doses in excess of those present in our natural environment.[1,2] These comments are directed to a consideration of the risk of cancer or genetic sequela that might occur from the radiation exposures estimated on the basis of the most reliable dosimetric information presently available.[3]

Estimations of radiation doses to the population in a 50-mile radius of Three Mile Island were based on dosimeter measurements that were within 15 miles of

the site. Extrapolation of these measurements to the 50-mile radius would therefore tend to overestimate somewhat the actual radiation dose. It is further assumed that everyone in the 50-mile radius was exposed to the radiation, an assumption that almost certainly overestimates the number of people at risk. With these conservative assumptions, the approximately 2,000,000 people within a 50-mile radius of Three Mile Island could have been exposed to an average dose of 1.5 millirem.[3]

The health risks from low level radiation are estimated by assuming that the effects observed of high doses delivered at high dose rates can be directly and linearly extrapolated to low doses delivered at very much lower dose rates. It is also assumed that there is no safe dose (or threshold) below which there is no health risk. These assumptions result in a linear, nonthreshold, dose-rate independent-dose-effect relationship. This relationship is generally believed to overestimate the health risk from low level doses of gamma radiation.[1]

There are two expressions of biological damage that may be relevant to the irradiated population around Three Mile Island. There is a) the increased risk of fatal cancer for the exposed individual, and b) the potential for genetic damage that would be expressed at some future generation.

The risk of cancer per unit dose of radiation can be expressed absolutely or relatively. The absolute risk is the difference in the risk between an exposed (irradiated) population and an un-irradiated population of similar characteristics. Under the linear dose-effect relationship, the absolute risk may be expressed as the increased number of radiation-related cases of cancer per year in an exposed population per unit dose; for example, ten cancer deaths per year, per million people exposed, per rem (ten deaths/year 10^6 person/rem). The relative risk is the ratio between the risk of the irradiated population and the un-irradiated population. It is usually started as a fraction or multiple of the natural risk for that particular effect; for example, 0.5% per year. This report presents the estimate in terms of the absolute risk, since this expression seems the least ambiguous and the easiest to compare with data from other environmental situations.

The risk of cancer may not increase immediately after radiation. It may require several years before the risk increases (possibly 2-20 years, depending on the type of cancer and age of the person). This interval between irradiation and the appearance of cancer is called the latent period. Following this latent period there is a period of increased risk of cancer in the irradiated population. In order to estimate the total risk of cancer from a single dose of radiation, it is necessary to multiply either the absolute risk or the relative risk by the duration (length) of this period. The exact length of the period of increased risk is not known for most radiation-induced cancers, except leukemia, where the duration ranges from two to approximately 15 years. Therefore, two assumptions may be made. Assumption A is that the risk remains elevated for 30 years following the latent period, and then drops to zero. Assumption B is that the risk remains elevated for the remainder of the individual's lifetime. The risks of fatal cancer from radiation exposure estimated from the data in the 1972 BEIR report[1] for absolute risks and for assumptions A and B are shown in Table 1.

Application of the same risk estimate calculation to the 1.5-millirem dose received by the 2,000,000 people potentially exposed at Three Mile Island yields an incidence of $1.5/100 \times 2 \times 10^6/2 \times 10^8 \times 2000 = 0.3$ cancer fatalities.

Now compare this one possible case (actually only .3 of a case) to the number of people who would be expected to die of cancer in that same 2,000,000 people if they had not received the 1.5-millirem exposure. American Cancer Society statistics[4] indicate there would be 325,000 cancer deaths based on the lifetime risk of the 2,000,000 people. Thus, the most conservative estimate of the cancer risk from the Three Mile Island exposure would be that only one case of cancer would be added to the 325,000 that will probably occur. A very small risk indeed, compared to what some concerned citizens have imagined.

The possibility of genetic effects from exposure to ionizing radiation is a matter of wide public concern. Ionizing radiation can cause genetic mutations and other anomalies in animals and man. These effects

Table 1. Annual Number of Deaths Resulting from Exposure of the US Population to a Radiation Dose of 0.1 Rem (100 Millirem) per Year.*

	Absolute Risk
Leukemia	516
Other Fatal Cancers	
Assumption A[1]:	1210
Assumption B[2]:	1485
Total (Range)[3]	1726–2001

1. 30-year period of elevated risk following irradiation.
2. Life-time period of elevated risk following irradiation.
3. Low estimate = leukemia risk + assumption A for other fatal cancers. High estimate = leukemia risk + assumption B for other fatal cancers.

* 1967 US population = 197,863,000. Collective dose rate = $(198 \times 10^6$ people) $\times$ (0.1 rem/yr) = 19.8×10^6 person-rem/yr. From Table 3-4 (Absolute Risk) of the 1972 BEIR Report, pp 172-173

Table 2. Estimates of Genetic Effects of Low-Level Ionizing Radiation.

Disease Classification	Natural Incidence (per 10^6 live births)	Effects per 10^6 live births[1], of 5 rem per generation[2]	
		First Generation	Equilibrium
Dominant Diseases	10,000	50–500	250–2500
Chromosomal and Ressive Diseases	10,000	relatively slight	very slow increase
Congenital Anomalies	15,000	5–500	50–5000
Anomalies Expressed Later	10,000		
Constitutional and Degenerative Diseases	15,000		
Total	60,000	60–1000	300–7500
Risk per 10^6 people[3]	1,200 per year		

(1.) From the 1972 BEIR Report. The range of values corresponds to assumed doubling doses between 20 rem (high values) and 200 rem (lower values).

(2.) A generation is assumed to be 30 years.

(3.) Cases/10^6 live births × (4×10^6 live births per year/2×10^8 people).

may be manifested as congenital anomalies (birth defects) or hereditary abnormalities in descendents of an irradiated parent or parents. However, the exact numerical value of the risk of genetic injury from low doses of radiation in man is uncertain. The genetic effects estimated in the 1972 report of the Advisory Committee on the Biological Effects of Ionizing Radiation[1] are based on estimates that the radiation dose which would double the natural incidence of genetic mutations (doubling dose) is between 20 and 200 rem (20,000 and 200,000 millirem). The lower the doubling dose, the greater the risk from a given dose of radiation. Table 2 summarizes the calculation of the genetic risk per unit radiation dose based on data given in the 1972 BEIR Report.[1] The calculation was based on the 1967 birth rate of approximately 18.2 births per year, per 1000 people. The use of the 1976 birth rate of 14.2 births per year per 1000 people would give lower risks per person rem by a factor of 14.2/18.2 about 0.8. It seems, therefore, that among the 2,000,000 people potentially exposed to nuclear radiations during the Three Mile Island incident, there would be only one (if any) genetic defect expressed beyond the 2,400 per year which would be expected as the natural incidence.

To further put the Three Mile Island exposure in perspective we might look at the consequences of exposure to ionizing radiation that would occur during a transcontinental (high altitude) aircraft flight. The intensity of background radiation increases with altitude. Even at ground level for example, persons living in Denver, Colorado, are continuously exposed to nearly twice the cosmic radiation intensity as persons in Harrisburg, Pennsylvania—75 compared to 42 millirems per year.[2,5,6] At a cruising altitude of 10,000 to 12,000 meters, in a jet aircraft, the dose rate is 0.15 to 0.35 millirems per hour,[2] so that in two 6-hour flights the traveler may be exposed to the same dose of radiation as was estimated for the population around Three Mile Island. The flight crew, on the other hand, with an average flying time of 1,000 hours per year, will receive 150 to 350 millirems. Passengers or crew using the supersonic transport would be exposed to approximately three times the cosmic radiation intensity that would be present in subsonic aircrafts. Using the same reasoning as for the Three Mile Island population, the transcontinental jet airline passengers could be at a higher risk for radiation-induced cancer or genetic abnormalities than the population around Three Mile Island.

There is a strong case, then, as the foregoing documents, that the population in the vicinity of Three Mile Island is at no significantly greater risk of cancer or genetic sequela as a result of the nuclear accident than any similar population in the United States.

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Grand Rounds: Anaphylaxis

From the Division of Immunology and Connective Tissue Diseases, Medical College of Virginia/Virginia Commonwealth University. Discussed by Shaun Ruddy, MD.



Presentation of Case

Dr. Eugene A. Donovan: A 61-year-old black male came to the emergency room early in the morning because of "welts" over his hands and feet with a sensation of warmth in these areas. He stated this later spread to other areas, causing him to have swollen eyelids, hoarseness, and shortness of breath, and he then came to the emergency room. Physical exam revealed the patient to be tachypneic, his lung exam revealed bilateral wheezing, and he was initially noted to have a blood pressure of 132/60 mm Hg. The patient was given 0.3 cc of epinephrine 15 minutes apart, two injections of diphenhydramine, 50 mg IV, then methylprednisolone, 250 mg IV. Immediately after receiving these medications the patient was found to have a blood pressure of 50 mm Hg systolic. Dopamine was started and 15 minutes later he was noted to have a blood pressure of 150/90 mm Hg, which subsequently rose to approximately 200/90; the dopamine was stopped at this time. Arterial blood gases revealed a p02 of 62 mm Hg, a pCO2 of 34 mm Hg, and a pH of 7.39. He was transferred to the intensive care unit. When further history could be obtained, he stated that when the "welts" began he was seated in front of a gas station. On close questioning by many examiners, there was no precipitating factor found. He was on no medications on admission except an occasional aspirin, not even one a day, and none had been ingested that day.

His past history was remarkable for three prior allergic episodes. The first one occurred in 1975 and emergency room records describe this as urticarial lesions which were generalized and burning. In October 1978 he again came to the emergency room, and records state he had hives on the forearm. He was treated with intramuscular diphenhydramine and sent home. He stated that he continued to have hives

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and burning for two months after this visit. However, they were mild and he didn't come back to the emergency room. In 1979, approximately 2 months before this admission, upon awakening in the morning and going out on his front porch, he noted a burning sensation in his palms and soles that lasted for about 15 minutes and spontaneously resolved. In retrospect, each of the three previous episodes had occurred while he was on his front porch.

His past medical history was also remarkable for a dermatology clinic visit in 1972 for rash described as papulovesicular with some secondary infection. This was felt to be secondary to penicillin the patient had received 2-3 weeks earlier. However, he has since received both oral and parenteral penicillin without complications. The patient also has a history of chronic obstructive pulmonary disease documented in 1975 by pulmonary function tests, which revealed a mild obstructive picture.

His family history was unremarkable.

Physical Examination: On admission to the intensive care unit, the patient's pulse was irregularly irregular. There was marked periorbital edema and a swollen tongue. The chest revealed bilateral diffuse expiratory wheezes and rhonchi.

Laboratory: His admission hemogram was remarkable only for the differential: 35 polys, 60 lymphs, 1 band and 4 monos. A repeat study the next day was normal. Chemistries included a potassium of 2.7 mEq/L, a blood urea nitrogen of 25 mg/dl and a blood sugar of 267 mg/dl. Urinalysis was unremarkable. EKG revealed atrial fibrillation with a ventricular response of about 125, and chest radiograph revealed an increased heart size and clear lung fields except for some chronic blunting of the right angle. A $C\bar{1}$ inhibitor level subsequently was reported as within normal limits, and a nasal smear indicated increased eosinophils.

Hospital Course: The patient responded to intravenous aminophylline and the next day was transferred to a general medical ward. Oral aminophylline was instituted. After his lungs cleared of all wheezes, his bronchodilators were stopped and pulmonary function tests were obtained. These revealed a mild to moderate airways obstruction with a slight restrictive pattern; also there was no improvement with bronchodilators. The results were essentially unchanged from those of 1975. Skin testing was not done.

Ampicillin was instituted because of cough, which was productive of yellowish sputum. About 4 days later he developed a very fine papular rash on the forearms which was slightly burning. The ampicillin was discontinued and a dermatology consultant recommended hydroxyzine, 25 mg 4 times daily in the hope that this would decrease the frequency of the patient's reactions. Appropriate cardiac medications for his atrial fibrillation were given.

Discussion

DR. RUDDY: Could I ask just how much time elapsed between his sitting down in front of the gas station and being found to have a blood pressure of 50 systolic?

DR. DONOVAN: He apparently sat down in front of the gas station about 6:30 AM. He arrived in the emergency room at 7:00, and he had a blood pressure of 50 at 7:30.

DR. RUDDY: So it was roughly an hour later. That is a rather unusual time course for anaphylaxis. Most instances of anaphylaxis develop within minutes following the introduction in one way or another of the antigen. As to what the antigen was in this particular individual, given the preceeding history of recurrent urticaria, also apparently without any known source of antigen, I can't even begin to guess. Some of the characteristic things that one usually sees in a typical anaphylactic reaction is the onset within seconds or minutes of wheezing, as well as upper airways obstruction symptoms, such as a lump in the throat. These represent bronchospasm and glottal or laryngeal edema. In the skin you can have either of two manifestations, an intensely pruritic urticarial eruption, which also occurs within a few minutes, or the development of a more diffuse subcutaneous burning sensation, which fits with the diagnosis of angioedema. The way in which antigenic agents leading to anaphylaxis are usually introduced is either by injection or by ingestion. Anaphylaxis due to an inhalent allergen is a relatively rare event, and therefore I agree with the decision not to perform skin testing because the skin testing we do is for inhalent allergies; the results of skin testing for foods are extremely difficult to interpret because of the irritant effects of many of the food extracts. Inhalent anaphylaxis does rarely occur. I once had a technician who inhaled a lyophilized powder of cobra venom, to which she was extremely sensitive, and she developed wheezing and nearly keeled right over on the floor. She didn't work with the cobra venom after that!

QUESTION: Did she ever work with anything again?

DR. RUDDY: Yes. She responded very nicely to appropriate treatment which included most of the things that were given to the patient being discussed. I would have some doubt about the indication for methylprednisolone. The important drugs in acute anaphylaxis are parenteral epinephrine (that's num-

ber one), the correction of hypoxemia with oxygen, and being ready to keep the airway open, either with endotracheal intubation or, if necessary, tracheostomy. Diphenhydramine or other antihistamines might be helpful, but this is not clear. If the patient has some bronchospasm the steroid is not likely to hurt him, but in terms of treating the acute anaphylactic reaction I don't think it likely to be lifesaving; epinephrine might well be.

There are several things that are causing anaphylaxis more commonly these days. One thing that at least in some institutions has come back into vogue is serum anaphylaxis. In the 1930s diphtheria antiserum, pneumococcal antisera and things like that were probably the most common causes of anaphylaxis. These days, in many institutions, antilymphocyte globulin or antithymocyte globulin causes anaphylaxis in about 10-20% of allograft recipients who are given this for T-lymphocyte depletion. I don't know the percentage of reactions noted on the transplant service at the Medical College of Virginia, but that's what they were at other institutions a few years ago. Other things that have been common are enzymes, sometimes used experimentally to dissolve the nucleus pulposus in the treatment of herniated discs; 1-3% of such individuals will develop severe anaphylactic reactions. Anaphylactic reactions have also been reported to the use of hormones of various kinds, especially extracted hormones which may contain impurities. On the other hand, anaphylaxis reaction to insulin has occurred, even synthetic human insulin, so that the allergen need not be an impurity in the extract but rarely may actually be the hormone. Most commonly, of course, even these days, is penicillin anaphylaxis. Oral ingestions is certainly adequate to produce symptoms. Even anaphylaxis following the ingestion of food products containing penicillin has been documented in the literature; that is, the cow gets the penicillin for mastitis, it is passed into the cow's milk, and the patient develops anaphylaxis consequent to drinking the milk. So penicillin allergy commonly occurs. The late rashes that one sees with ampicillin or penicillin, such as in this individual, apparently developed 3 or 4 days later, are often traceable to antibodies against the penicilloyl determinant rather than the native penicillin. In contrast, the immediate anaphylactic reactions are more commonly associated with antibodies to the "minor antigenic determinants", which are a number of metabolites of penicillin, none of them very well characterized and for which skin testing is not routinely available.

We have learned a lot about the mechanism of anaphylaxis. Antigen introduced into the skin trig-

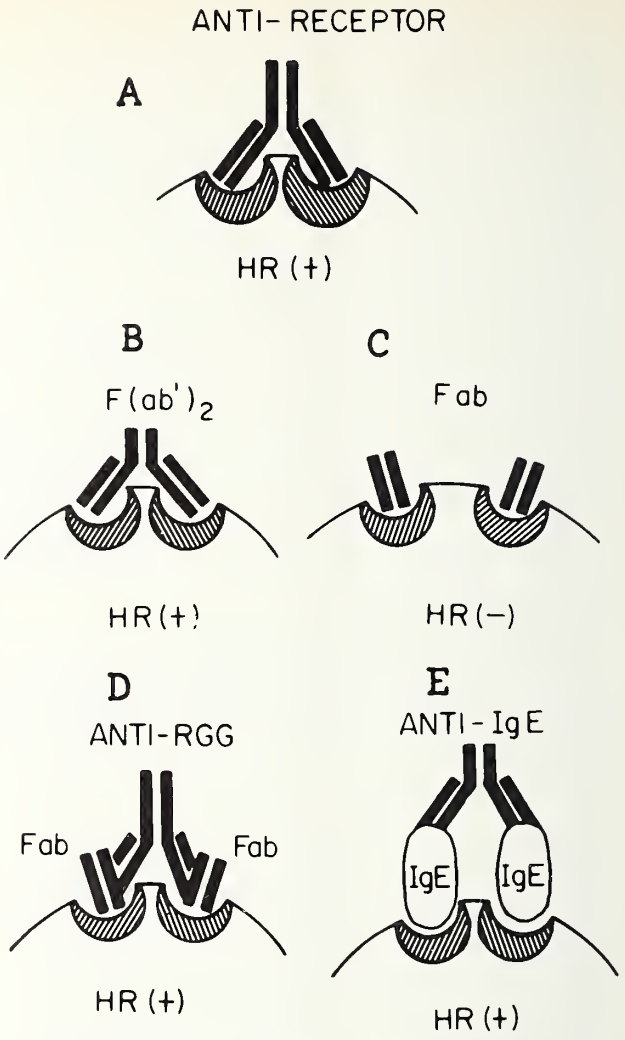


Fig. 1. Diagrams of mechanisms for histamine release by antireceptor antibody. *By permission, the Journal of Allergy and Clinical Immunology.*[2]

gers a mast cell coated with IgE antibody directed against the antigen. There is no question about that; everyone agrees that IgE on the surface of the mast cell is the responsible antibody class. As a consequence of the triggering, the mast cell secretes chemicals in very much the same way that the islet cell in the pancreas secretes insulin. It secretes histamine and several other mediators, including slow reactive substance and eosinophilic chemotactic factor, which, incidentally, may have something to do with the eosinophils that were in the patient's nose. Normal people don't have eosinophils there; people with allergic rhinitis do. It turns out that mast cells have receptors for IgE and they bind IgE extremely tightly, as Dr. Dan Conrad showed before he joined the MCV faculty.[1] The affinity constants are of the order of 10^9 liters per mole. In biological terms this is very tight binding, and these mast cells are coated

with these IgE antibodies, which are sitting on the receptors. Now, if one bridges two adjacent IgE molecules, each on a receptor, with an antigen that is polyvalent, then one causes the receptors to come together, and this is the signal for secretion.[2] Aggregation of the receptors by anti-IgE also works (Fig 1E). A bivalent antibody directed against the receptor also bridges the receptor and fires the cell (Fig 1A). No IgE here, no anti-IgE, just antibody against the receptor, and, as in the case of certain other antibodies against other receptors, notably TSH receptors in the thyroid, the bridging of two receptors triggers off the cell to secrete. You don't need the Fc portion of the antireceptor antibody, just a bivalent $F(ab')_2$ molecule, as shown in Figure 1B, but if you have monovalent Fab and don't bridge the receptors, as in Figure 1C, you don't induce secretion. Finally, if you have the Fab on the receptors and then bridge those Fabs with goat anti-rabbit gamma globulin, you also induce secretion by the cell. So the signal then for secretion seems to be the bridging, the coming together of two receptors. At this point, there may be a calcium gate which opens up, creating an influx of calcium into the cell, and the secretory mechanism is turned on. I don't know what caused this person's anaphylaxis, but I agree entirely with the recommendations of the dermatologists that he should receive some suppressant form of therapy. I would also recommend that he come to our allergy clinic and see if we can piece together a little bit more environmental history, which is often a little easier to do in the calm of a doctor's office than in an intensive care unit.

QUESTION: What about the absence of eosinophilia in the peripheral blood?

DR. RUDDY: First of all, eosinophilia by itself is not reliable. If you take large numbers of atopic patients, you find that more of them have eosinophilia, and more of them have high IgE levels, but eosinophilia is by itself not particularly reliable in terms of including or excluding atopy. Secondly, the frequency of anaphylaxis does not seem to be increased in individuals with other manifestations of atopy, notably allergic rhinitis, seasonal asthma, infantile eczema, etc. This seems to be phenomenon which is separate and apart. The other thing that is separate and apart and that occurs frequently are the anaphylactoid reactions to iodinated contrast material. There is no evidence whatsoever that that's an immunologic or IgE-mediated disease.

QUESTION: Is the treatment the same?

DR. RUDDY: Yes, the treatment is precisely the same.

QUESTION: You didn't mention insects as being a common cause of anaphylaxis.

DR. RUDDY: I should have. The FDA has just approved the use of specific hymenoptera venoms. Previously, extracts of whole insects were used for immunotherapy, but now we have specific preparations of individual stinging-insect venoms and can use these for skin testing and desensitization. These tests are very sensitive, and there is strong evidence from well-controlled studies done by Lichtenstein and his associates in Baltimore that in fact the desensitization prevents the recurrence of systemic reactions following a sting.[3] The testing is expensive, because the venoms are not very stable, and the desensitization treatment is also fairly expensive, but considering the frequency of fatal anaphylaxis due to stinging insects in the US, probably several hundred deaths each year, it is certainly worth considering when indicated.

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Cancer Trends: Germ Cell Carcinoma of the Testis

William R. Zimmer, MD, *Springfield, Illinois*

Rapid progress has been made recently in the treatment of germ cell carcinoma of the testis, and prolonged remissions are being reported more frequently in patients with advanced disease. The author discusses the developments that have achieved this new therapeutic effectiveness.

IN THE ten years since germ cell carcinoma of the testis was last reviewed in this journal[1], the management of this disease has undergone dramatic change. With the developments achieved in recent years, prolonged complete remissions are being more frequently reported in patients with advanced disease. Some of these developments include the accurate measurement of tumor markers, α-fetoprotein (AFP) and the β-subunit of human chorionic gonadotropin (β-HCG), as well as the recent chemotherapeutic approach using vinblastine, bleomycin, and the new cis-diamminedichloro-platinum (DDP).

The presenting symptoms of germ cell carcinoma of the testis were analyzed by Baldetorp et al.[2] Of 128 patients, 105 (82%) presented with testicular enlargement; 48 (38%) presented with testicular pain; and eight (6%) presented with symptoms produced by metastases. Since testicular neoplasms often develop insidiously, patients may not present for several months after they first become aware of a testicular mass or sensation of heaviness in the testicle. When patients present to the physician for the first time, it is not always easy to distinguish a testicular neoplasm from a benign process. Neoplasm, when misdiagnosed, is most frequently confused with epididy-

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The Cancer Trends series appears under the editorship of J. Shelton Horsley III, MD; Gerald Goldstein, MD, and Amas M. El-Mahdi, MD. It is sponsored by the Professional Education Committee, Virginia Division, American Cancer Society.

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Table 1. Dixon and Moore Pathologic Classification.

1. Pure seminoma.
2. Embryonal cell carcinoma, pure or with seminoma.
3. Teratoma, pure or with seminoma.
4. Teratoma, with embryonal cell carcinoma or choriocarcinoma or both and with or without seminoma.
5. Choriocarcinoma, pure or with embryonal cell carcinoma and/or seminoma.

mitis. Symptoms that may be expected from metastases include lumbar pain or urinary obstruction from enlarged retroperitoneal nodes; lower extremity edema from vena cava obstruction; cough, respiratory insufficiency, or hemoptysis from pulmonary metastases. Bone and brain metastases are less common. Gynecomastia and nipple pigmentation may be observed.

The histology of germ cell carcinoma of the testis was classified by Dixon and Moore[3] into five categories as outlined in Table 1. This classification is presently adopted by the AFIP and is probably the most widely accepted classification in the US today. However, it should be kept in mind that it is not universally accepted, and much of the British and European literature uses the classification of Collins and Pugh,[4] which divides all testicular germ cell neoplasms into only two classes: seminoma and teratoma. Caution must therefore be employed when comparing results from the European and American literature.

One of the major advances made in recent years has been the development of sensitive radioimmunoassays which detect tumor markers: α fetoprotein (AFP) and the β subunit of human chorionic gonadotropin (β-HCG)[5]. Subclinical disease can now be detected and treated at a much earlier stage than was previously possible. AFP is a glycoprotein found in the fetal yolk sac, liver, and GI tract of a wide variety of species. In the human, the normal level is usually less than 16 ng/ml and always less than 40 ng/ml by one year of age. Although originally described to be elevated in patients with hepatoma, it has also been found to be elevated in pancreatic carcinoma, gastric carcinoma, bronchogenic carcinoma, viral hepatitis, and germ cell carcinoma of the testis. Levels are rarely elevated in pure seminoma or pure choriocarcinoma but have been found in up to 70% of cases of teratocarcinoma and embryonal cell carcinoma.

Table 2. Staging of Carcinoma of the Testis (Walter Reed Hospital).

Stage 1a—Tumor confined to one testis.
Stage 1b—Histologic evidence of metastases to the iliac or paraaortic lymph nodes.
Stage 2— Clinical or roentgenographic evidence of metastases to femoral, inguinal, iliac, or paraaortic lymph nodes with no evidence of metastases to lymphatics above the diaphragm or to visceral organs.
Stage 3— Clinical or roentgenographic evidence of lymph node metastases above the diaphragm or metastases to visceral organs.

β-HCG, on the other hand, has been reported elevated in all pathologic types of testicular carcinoma and may be elevated in 5-10% of apparently pure seminoma. HCG, too, is a glycoprotein, but is composed of an alpha and a beta chain. The alpha chain of HCG is similar to the alpha chain of luteinizing hormone (LH), thyrotropin (TSH), and a follicle stimulating hormone (FSH). Their beta chains, however, are immunologically different, with the beta subunit of HCG cross-reacting to some small degree only with the LH molecule. Therefore, one can now assess the level of HCG with only minimal interference from other similar molecules. With the use of these two tumor markers, the physician can pick up subclinical disease much earlier than previously possible since no patient with an elevated AFP or β-HCG can be considered free of disease.

Many different staging systems are presently in use. The staging system currently used by the University of Virginia has been adopted from the Walter Reed Hospital (Table 2).[6] A more detailed staging system simplified from the staging proposed for the Intergroup Testicular Cancer Study is shown in Table 3. Staging may be facilitated with the use of the CT scan.

The initial surgical procedure of choice is high inguinal orchiectomy if the diagnosis of malignancy is in any way suspected. A transcrotal orchiectomy or

Table 3. Proposed Intergroup Study Staging System (Sem Oncol 6:3, 1979). Modified.

1. Primary tumor assessment
   a) TX—primary tumor assessment not carried out or any category applicable.
   b) T0—no evidence of primary tumor.
   c) T1 to T4—based on local extent of tumor.
2. Nodal assessment
   a) NX—not carried out or any category applicable.
   b) N0—negative nodes.
   c) N1—nodes not visibly enlarged at surgery but microscopic disease found on pathologic exam.
   d) N2—Nodes enlarged and microscopically contain tumor but no extension beyond nodes into areolar tissue.
   e) N3—Extension into adjacent areolar tissue (microscopic or gross).
      No gross residual tumor remaining after surgery.
   f) N4—Tumor present in retroperitoneal nodes, retroperitoneal areolar tissue with gross residual tumor remaining after surgery.
3. Metastasis assessment
   a) MX—not carried out or any category applicable.
   b) M0—no evidence of distant metastasis
   c) M1—distant metastasis present

testicular biopsy is contraindicated in malignant tumors since there is a high rate of local recurrence and spread to inguinal nodes. After the specimen is histologically classified, a retroperitoneal node dissection should be performed in Stage 1 and 2 disease for nonseminomatous tumors. However, it is generally accepted that the primary mode of treatment for pure seminoma, whether Stage 1 or 2, is radiotherapy since this is one of the most radiosensitive of all tumors. Seminoma has a 90-95% 5-year survival, with radiotherapy the only form of extraoperative treatment.

Of all the developments made in the past few years in the management of neoplasms, the advances in chemotherapy have probably been the most dramatic. Many drugs have been found to be active against non-seminomatous disease with variable response rates. A new agent, cis-diamminedichloroplatinum (DDP) has recently found major use in combination with other drugs from non-seminomatous testicular neoplasms.[7]

Cis-diamminedichloroplatinum (cis-platin, platinol), has also been found to be useful in several neoplasms, for example, carcinoma of the ovary and epidermoid carcinoma of the head and neck. Although the exact mechanism of action is unknown, it is thought that the drug acts as an alkylating agent and most likely binds with guanine in the DNA molecule leading to both inter- and intra-strand cross-linking. The drug is not cell cycle specific. It must be injected intravenously and has an initial half-life (T½) of 25-50 minutes and a secondary T½ of 60-70 hours. It is 90% protein bound and accumulates preferentially in organs of the GU systems, such as kidney, ovary, and testes, but also in liver and intestine. It does not cross the blood-brain barrier. The drug is excreted primarily by the kidney and 30-45% is excreted within the first five days after administration.

The toxicities of this drug are many and varied. Nausea and vomiting are common and may start within one hour after receiving the drug. There may also be diarrhea, and a transient elevation of the SGOT and SGPT. Myelosuppression is usually mild and reaches a nadir at about day 23. Thrombocytopenia is equally mild and, like the leukopenia, is more pronounced when the patient has received other chemotherapy or radiotherapy. Anemia occurs in up to 40%.

Of interest is the fact that although platinum is close to lead in the Periodic Table, no basophilic stippling has been recorded. One of the most serious toxicities of DDP is nephrotoxicity. Initially, in the early clinical trials, death from renal failure resulted from platinum administration even though the patient's tumor may have been responding. It was later discovered that this toxicity could have been avoided with adequate hydration and diuresis.[8] The patient is given 1-2 liters of normal saline over 6-12 hours before receiving DDP. Immediately preceding administration of the drug, 12.5 grams of mannitol is given; the drug is then injected and hydration is maintained to insure a urine output of 100-200 cc/hour. Renal function should return to normal preceding each course of DDP. Recent reports indicate that DDP has increased nephrotoxicity with nephrotoxic antibiotics, such as gentamicin, and, therefore, DDP should not be used with or subsequent to the administration of aminoglycoside antibiotics. Another major problem with DDP is neurotoxicity. Tinnitus will occur in up to 30%. Hearing loss may also occur, with the loss being in the high frequency range (6000 to 8000 Hertz). The hearing loss is irreversible. Other neurotoxicities include motor and sensory peripheral neuropathy, seizures, and orthostatic hypotension. Hypersensitivity reactions have also been known to occur, including skin rash, urticaria. More than 16 incidents of anaphylaxis have been reported.[9]

Combination chemotherapy was initiated in 1960 by Li, who used actinomycin D, methotrexate, and chlorambucil. The real advance in combination chemotherapy came from Samuels,[10] however, who used bleomycin and vinblastine. Of 23 patients with advanced disease, there were nine (38%) complete responses and 17 (74%) total responses. More recently, the regimen as described by Einhorn and Donohue,[11,12] using cis-platinum, bleomycin and vinblastine, has given excellent results in patients with advanced disease. Of 47 patients who have been on this protocol, 28 (60%) are alive and disease-free from 24-48 months; 32 (68%) are alive from 24-48 months. DDP is given every 3 weeks at a dose of 20 mgm/M^2 1 day × 5 days; bleomycin is given weekly for 12 weeks at 30 units; and vinblastine is given on day 1 and 2 at a dose of 0.15 mgm/kg every 3 weeks. The cycle is repeated 3-4 times, and those who achieve a response are put on maintenance of 0.3 mgm/kg of vinblastine every 4 weeks for 2 years. If, after three to four cycles of the 3-drug regimen the patient has localized disease, it is removed surgically. The toxicity from this regimen includes the sum of the individual toxicities of the three agents. These toxicities include nausea, vomiting, fever, stomatitis, skin thickening, and occasional interstitial pneumonitis and pulmonary failure from bleomycin; nausea and vomiting, myelosuppression, renal failure and deafness from DDP.

In summation, germ cell carcinoma of the testis is

a disease in which rapid and highly significant progress has been made in the last few years. It is hoped that the coming years will bring further advances so that virtually all patients can be rendered free of disease and lead normal lives.

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CANCER TRENDS COMMENT

Germ cell neoplasms of the testis account for less than 1% of all cancers occurring in American males. Their importance to the medical community lies not so much in their frequency, however, as in the fact that they now comprise one of the most highly treatable and, indeed, curable of human cancers. The most impressive gains have been in the area of disseminated non-seminomatous germ cell tumors, the area previously most refractory to treatment. The use of tumor markers and the overall strategy of management are ably presented in the above article. The current results represent the efforts of many institutions and practitioners in the United States and cross specialty lines. Indeed, testicular neoplasms are a major example of the value of close cooperation among the primary care physician, pathologist, urological surgeon, radiation therapist and medical oncologist, in the planning of a coordinated multimodality attack on the tumor.

It is not simply a matter of something of interest for each specialist. All must be cognizant of the overall requirements for curability and the factors pertinent to the long-term management of the patient. These factors include 1) the necessity of not violating the tunica albuginea barrier to dissemination to the inquinal nodes; 2) the definition of all cell types in the primary and the metastases; 3) the need to assess accurately the level of nodal involvement at lymphadenectomy; 4) the need of the radiotherapist and chemotherapist to be able to locate areas of nodal disease and serially assess the response or lack of response to therapy; 5) the preservation of as much functional bone marrow as possible, consistent with optimal therapy; 6) the preservation of reproductive function in a predominately young population of patients; 7) awareness of the possibility of such long-term effects of chemotherapeutic agents as mutagenicity, teratogenicity and carcinogenicity. Furthermore, all of us need to stress early detection by means of periodic routine testicular palpation.

The truly remarkable results now being achieved by most groups with advanced non-seminomatous germ cell tumors should be tempered, however, with the realization that intensive regimens of chemotherapy, particularly after extensive radiation therapy, carry a high risk of adverse effects. However, there is no reason to believe that the next decade will not bring further clinical advances, including a refinement of the regimens used in adjuvant therapy of early stage tumors.

Among the notable leads emerging from basic and clinical consideration of germ cell tumors are several that are both startling and significant. The finding that the malignant teratomatous component of mixed germ cell neoplasms may with treatment apparently become benign raises the possibility that the process of neoplastic transformation itself may be reversible clinically. Finally, although long-term followup of the complete responders is obviously required, I am struck by the fact that an estimated 50% of the long term responses in the Indiana group's experience with disseminated non-seminomatous germ cell tumors are apparent cures.

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Computed Tomography and the Diagnosis of Giant Abdominal Lymphocele

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LYMPHOCELE is a well recognized complication of surgical disruption of retroperitoneal lymphatics. This report describes a huge abdominal lymphocele secondary to an aorto-femoral bypass graft procedure. While the diagnosis may be suggested by sonography, the low density of the mass on computed tomography enables a correct pre-operative diagnosis.

Case Report

A 63-year-old woman underwent an aorto-femoral bypass graft procedure for severe arteriosclerotic occlusive disease. Postoperatively, a right flank mass was noted; sonography revealed a cystic mass with anterior displacement of the right kidney (Fig. 1). The mass was felt initially to represent a retroperitoneal hematoma secondary to heparin anticoagulation; heparin was stopped, but the flank mass continued to enlarge over the next 6 weeks. Serial sonograms showed an enlarging cystic mass, with increasing hydroephrosis of the right kidney due to ureteral compression by the mass; eventually the mass filled the right side of the abdomen. Computed tomography, performed prior to surgical exploration, showed the mass to be low density, in the fat range, at about 0 to −5 EMI units (Fig. 2). At surgery, a right flank approach revealed a tense cystic mass containing 3 liters of turbid pale yellow fluid. The final diagnosis was lymphocele. The postoperative course was stormy, necessitating a second drainage procedure. A final sonogram before discharge showed resolution of the mass, with persisting right hydronephrosis (Fig. 3).

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Submitted 10-5-79.

Discussion

Lymphoceles are commonly found in the pelvis, where they form after radical gynecological surgery or renal transplantation[1,2]. Traumatic disruption of retroperitoneal lymphatics is the usual cause and this etiology has been documented by lymphangiography[3]. Upper abdominal lymphoceles are rare; retroperitoneal surgery or simple nephrolithiasis are reported causes[1,4]. Although retroperitoneal aorto-femoral bypass grafting is routine, the present case is apparently the first example of a postoperative lymphocele following this procedure.

Sonography is useful in diagnosis of lymphocele, and will show a sharply outlined sonolucent mass[1,2,4]. However, a loculated ascitic fluid collection, hematoma, or abscess might occasionally present as a sonolucent mass[5]. The sonographic findings are suggestive of lymphocele, but are certainly not specific. The use of computed tomography, as in the present case, may allow the fatty, low-density lymphatic fluid to be identified for a correct preoperative diagnosis.

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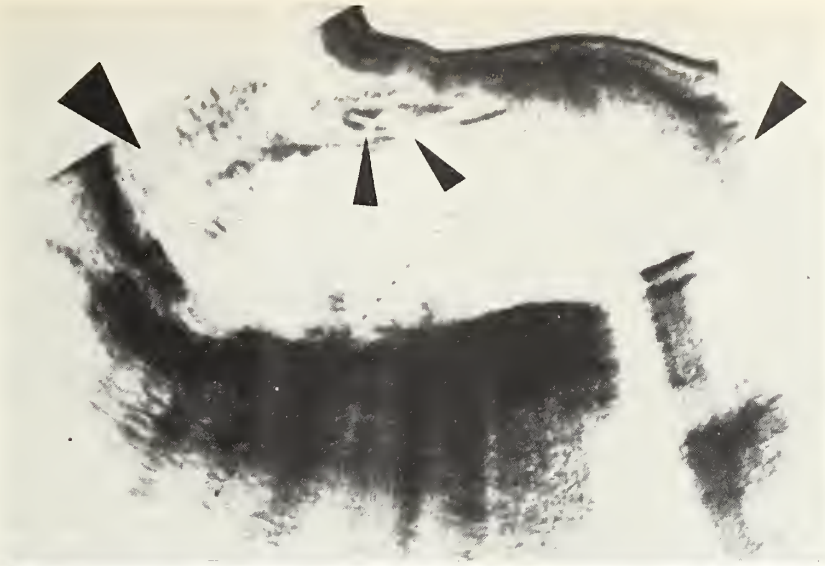


Fig. 1: Longitudinal sonogram shows huge cystic mass extending from behind the liver (large arrow) to pelvis (small arrow). Anteriorly displaced right kidney (double arrows) is evident. Marker dots are at 1-centimeter intervals.

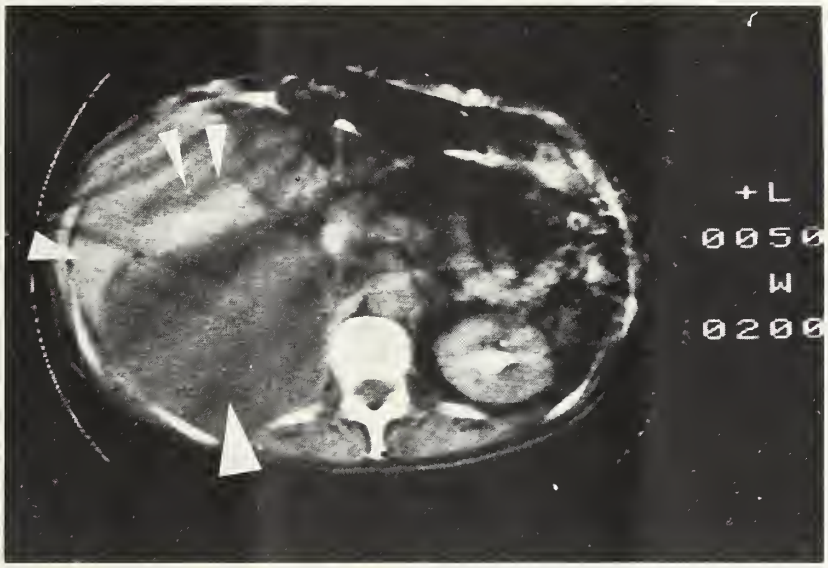


Fig. 2: CT scan shows low density mass (arrow) behind the liver (small arrow), displacing right kidney anteriorly (double arrows). Density of the mass measures 0 to −5 EMI units.



Fig. 3: Postoperative longitudinal sonogram at same level as Fig. 1. Cystic mass is no longer present. Marked hydronephrosis of right kidney is present, with dilated calyces (arrows).

Monoamniotic Twins with Double Survival: Case Report

Frank B. Sloop, Jr., MD, and U. G. Turner III, MD,
Charlottesville, Virginia

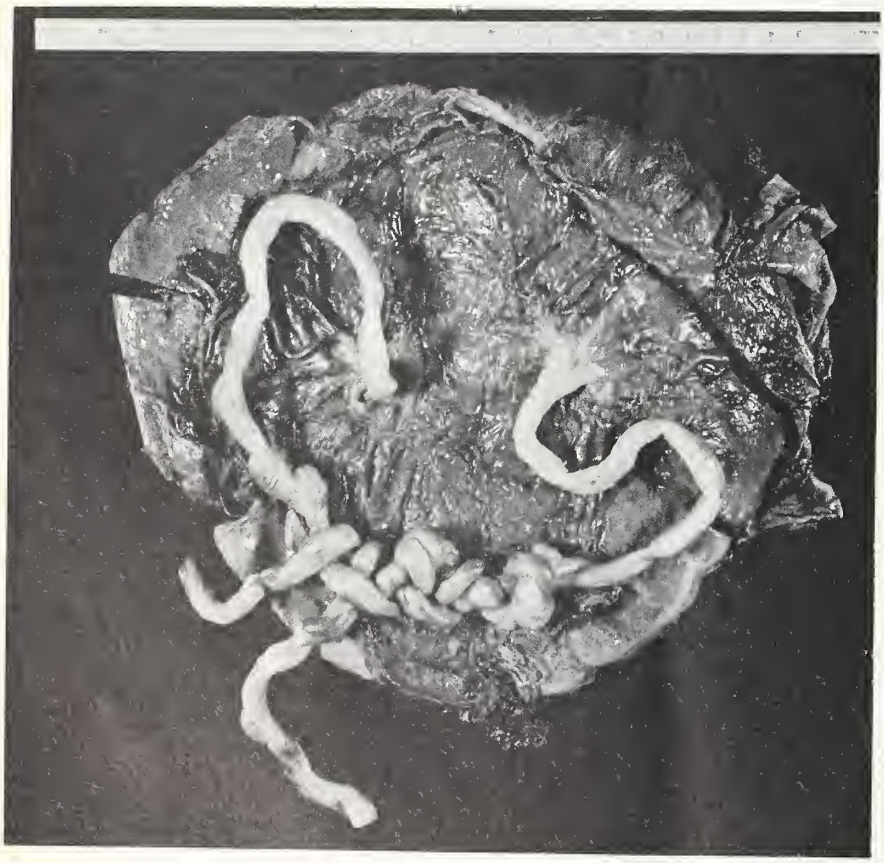


Fig. 1. Fetal surface of the placenta, showing umbilical cord knots and absence of an amniotic partition.

MONOAMNIOTIC twin pregnancy is a rare phenomenon associated with a high rate of fetal mortality and unusual challenges to the obstetrician. First described by Boccalini in 1612, the condition has been periodically reported and reviewed in the American and foreign literature.[1-7]

The case presented here is of interest because of double survival in spite of multiple true umbilical cord knots and toxemia of pregnancy.

Case Report

M. K. is a 24-year-old white female, gravida 2, para 0, aborta 1, who progressed uneventfully with her second pregnancy until the late second trimester, when she developed signs of pre-eclampsia. She responded moderately well to salt restriction and bed rest, but was felt to be large for dates in the late third trimester. A sonogram at 37 weeks revealed a twin pregnancy. There was a history of multiple births in her husband's family.

At 40 weeks she was admitted to the hospital with a blood pressure of 150/100, +4 proteinuria and +2 ankle edema. The pelvic examination on admission revealed 2 cm of cervical dilation with 70% effacement. Pelvimetry showed adequate measurements with both twins in a cephalic position. The first twin was vertex, engaging the pelvis at S-1.

Artificial rupture of the membranes to produce labor resulted in a dysfunctional labor pattern confirmed by an internal monitor, so the patient was taken to the operating room, where she underwent a low transverse cervical cesarean section. The first twin was a male weighing 3,515 grams with apgar

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Submitted 9-18-79.

scores of 9 and 10 at 1 and 5 minutes respectively. The second twin's head presented at the hysterotomy site almost immediately after delivery of the first, suggesting a common amnionic sac; this infant, also male, weighed 3,359 grams and had apgars identical to the first twin's. The placenta and umbilical cords were manually removed. The placenta measured 24 × 24 × 2.5 cm in its greater dimensions, and the umbilical cords were inserted into the central portion of the placenta 8 cm apart without any intervening membranes, the configuration diagnostic of monoamionic, monochorionic twins. Approximately 20 cm from the placenta the umbilical cords were entangled in a 10 cm segment of true knots. Both umbilical cords contained two arteries and one vein (Fig. 1).

The mother's postoperative and postpartum courses were benign, with a return to normal blood pressure within 4 days. At a 4-week postpartum visit, the mother's blood pressure was 90/60, and the twins were thriving.

Discussion

Pauls[3] reported a frequency of monoamnionic twinning of 1 in 10,250 births, with a 1 in 250 ratio of twin births. The majority of uniovular twin births result from fission of the germinal disc between the first and third or third and eighth post-fertilization day, resulting respectively in diamniotic, dichorionic or diamniotic, monochroionic twins. Fission between the eighth and thirteenth day results in monoamnionic, monochorionic twins. After the thirteenth day fission is incomplete, resulting in conjoined (Siamese) twins.

The mortality rate for monoamnionic twins is higher than that of their diamnionic counterparts, although double survival has been reported to be as high as 60%.[2] The complications of twins occupying a single amnionic sack include interlocking or fetal collision; an increased incidence of congenital malformations; prolapse of the second twin's umbilical cord; physician error in cord clamping; prematurity; and true knotting of the umbilical cords, with potentially lethal vascular insufficiency to one or both twins.[1,9,10]

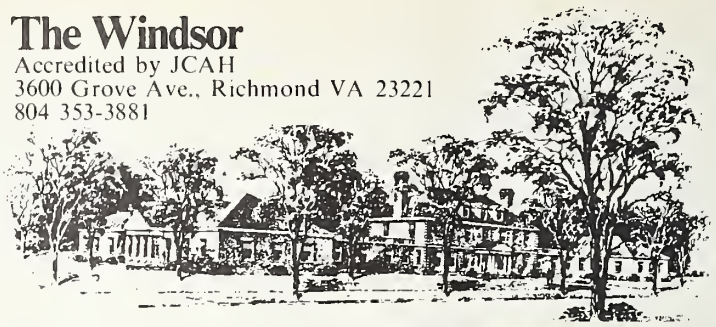
Monoamnionic twins are rarely diagnosed prior to delivery. Although amniography has been used successfully for this purpose in the past, it is not indicated as a routine procedure in all twin pregnancies.[11] An awareness of this condition with speedy delivery of the second twin appears to be the best course of action in reducing perinatal mortality.

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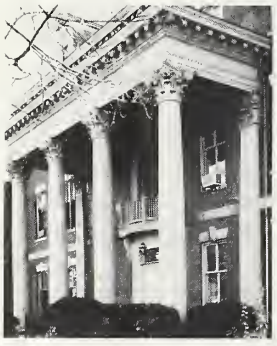
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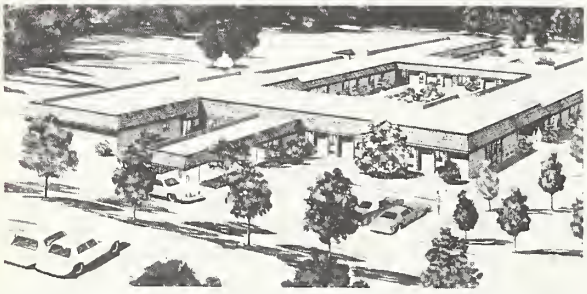
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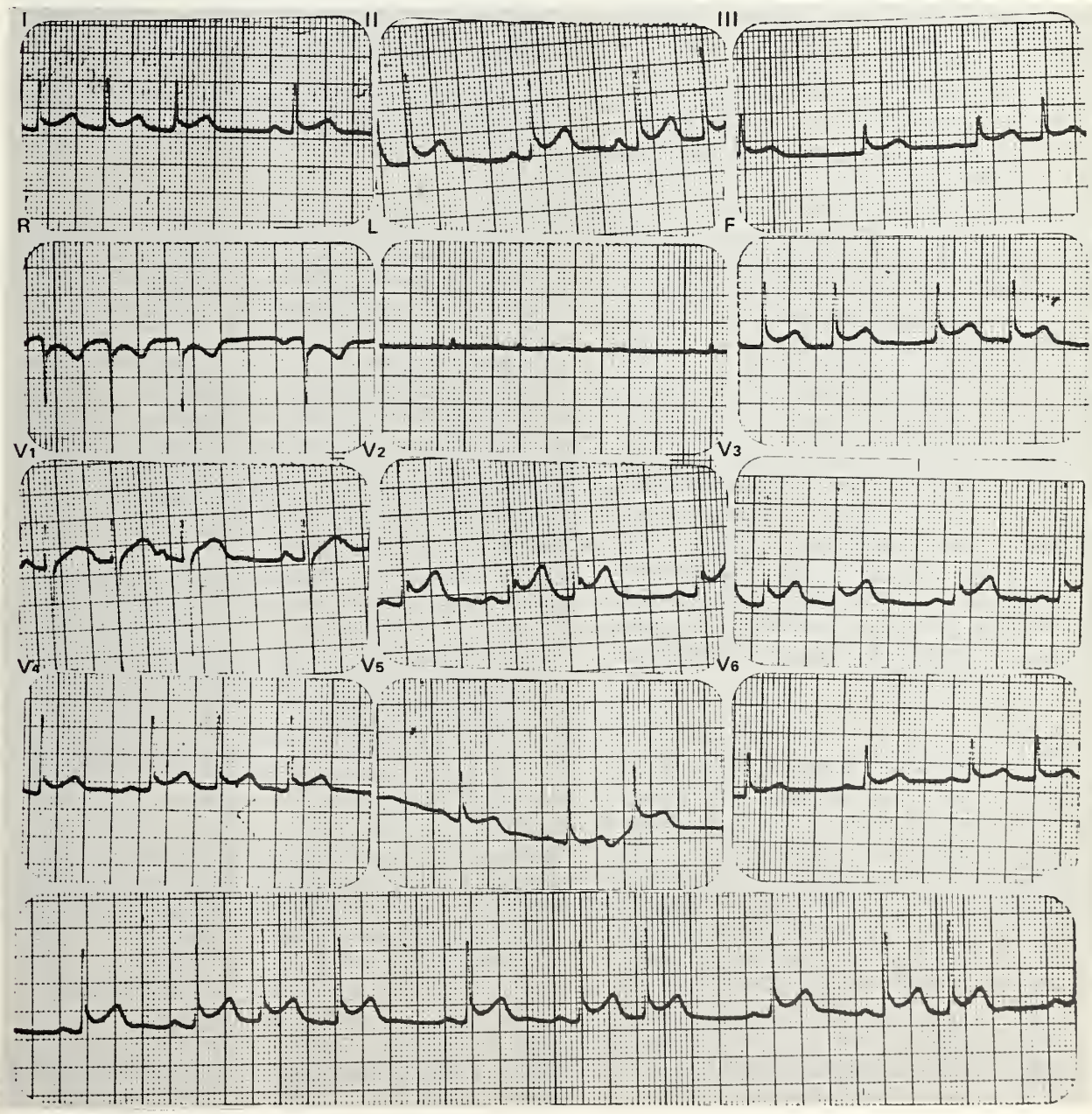
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Can You Diagnose This?

A medical puzzle prepared by
William Lee, MD, and Donald Romhilt, MD, *Richmond, Virginia*

The electrocardiogram was obtained in the emergency room from a 53-year-old man with chest pain, who had an identical EKG two years ago and also had a history of esophageal reflux which responded well to antacids. (No further history or physical findings were available at this time.)



DIAGNOSIS/DISCUSSION NEXT PAGE.

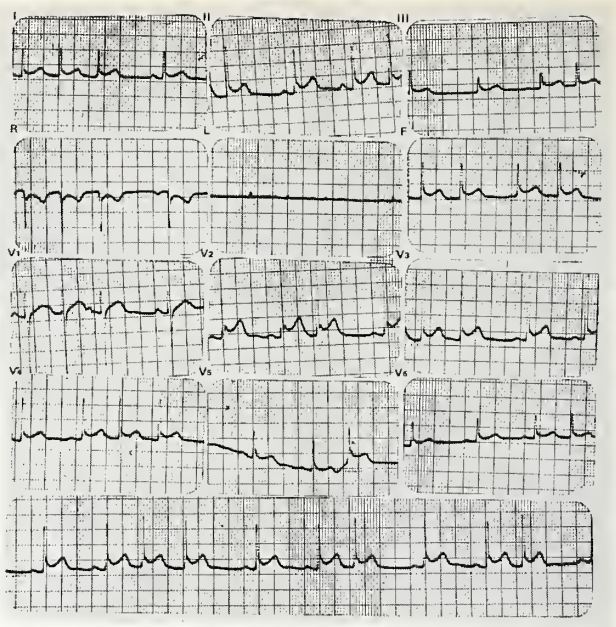
DIAGNOSIS: Normal sinus rhythm, premature atrial contractions.

DISCUSSION

Early repolarization is a benign electrocardiographic finding. Parisi [1] found that 2.4% of healthy men between ages 17 and 54 had at least 0.5 mm of ST segment elevation in two or more leads. The ST elevation was usually in the precordial leads, and in 97% of the subjects it was less than 2 mm. Characteristically, the T waves are somewhat peaked, tall and slightly asymmetric. When early repolarization was present in the precordial leads, the height of the T wave was greater than 5 mm in 82% of subjects and greater than 10 mm in 23% of subjects.[1] The ST segment elevation is concave upward and is perhaps best described as "a cord suspended loosely from the descending R limb at one end and from the apex of the T wave at the other end".[2]

The ST segment elevation of early repolarization must be distinguished from acute pericarditis and from an acute injury pattern. ST segment elevation in acute pericarditis usually occurs in more leads than early replorization, and the ST elevation is more often horizontal or even concave downward. In pericarditis, serial tracings classically show the return of the ST elevation to baseline followed by T wave inversion over a period of several days or a week. In addition, the clinical findings often will be needed to differentiate pericarditis from early repolarization. In acute myocardial infarction the acute injury pattern usually has ST elevation that is concave downward. In addition, the ST elevation is usually confined to localized anatomical areas and is frquently greater than 3mm. The evolution of EKG changes with T wave inversion and development of Q waves in conjunction with other clinical and laboratory findings will aid in the separation of early repolarization from an acute injury pattern.

Early repolarization may persist for months or years but the degree of ST elevation may be variable or even transient in any given person. Exercise will often return the ST segments to baseline. In subjects with early repolarization, resting hyperventilation will sometimes result in marked T wave inversion.[3] Early repolarization has long been known to be a benign finding. In one of very few longitudinal studies, Fenichel [2] followed 75 patients from 1 to 20 years



(average 8 years). Only two patients (3%) developed cardiac problems; each of these patients developed angina six or more years after their initial EKG and neither had any additional EKG changes over a 3- to 4-year followup.

Early repolarization is a fairly common electrocardiographic finding characterized by concave upward ST segment elevation in one or more leads. It must be distinguished from acute pericarditis and an acute injury pattern. Long-term followup has confirmed the benign nature of this finding.

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VIRGINIA AUTHORS

Diabetic Keotacidosis. RICHARD BIENIA, MD, and IGNACIO RIPOLI, MD. The authors discuss the medical emergency management of diabetic keotacidosis, including pathophysiology and general patient care, and give particular attention to current aspects of insulin and glucose therapy and the maintenance of fluids and electrolytes. JAMA 241:510-511, 1979.

The Care of Patients at Increased Risk of Premature Pacemaker Failure. LOCKHART B. MCGUIRE, MD, and STANTON P. NOLAN, MD, *Charlottesville.*

During 1975 to 1977, a series of advisory notices from a pacemaker manufacturer alerted us to an increased probability of sudden, premature pacemaker failure in 217 patients. Three possible responses to these recalls were used among these patients: prophylactic pulse generator change, increased surveillance without pulse generator change, and routine surveillance with replacement only after pacing failure. During the three years after implantation of these pulse generators, 30 sudden failures and 19 incidents of rate decrease indicating impending failure were observed; all were corrected by pulse generator replacement. Among the 50 deaths were six for whom terminal pacemaker status information was inadequate, but overall mortality was not notably different from other pacing series. Consideration of recalls should include projected frequency of failure, expected mode of failure, patient dependence on pacing, and presence of coexisting diseases. JAMA 241:701-703, 1979.

Mother-Son Folie a Deux: a Case Report. JONATHAN G. SOLOMON, MD, THOMAS G. FERNANDO, MD, and SANDRA M. SOLOMON, MS, *Hampton.*

A case of folie a deux is presented in which the child is the dominant psychotic partner and his mother is the passive partner in whom a paranoid psychosis is induced. The conditions under which folie a deux may occur, the diagnosis, and the treatment of the disorder are discussed. J Clin Psychiatr 39:819-820, 1978.

ECT in the Treatment of Recurrent Psychotic Depression. JONATHAN G. SOLOMON, MD, *Hampton.*

Two cases of recurrent psychotic depression are reported in which ECT (electroconvulsive therapy) was administered with good results for previous episodes of depression, but treatment of the current episode with combined drug therapy (antidepressant and antipsychotic drugs) in one case and antidepressant chemotherapy in the other resulted in failure to improve. The patients were transferred to another facility and improved when ECT was administered. Pertinent literature on ECT and drug treatment of depression is reviewed, and the conditions for which ECT is probably the treatment of choice are enumerated. South Med J 71:1516-1518, 1978.

Topical Nitrogen Mustard Induced Carcinogenesis. PAUL H. KRAVITZ, *Springfield, Virginia,* and CHARLES J. MCDONALD, *Providence, Rhode Island.*

Mycosis fungoides is a rare malignant lymphoma that primarily affects the skin. Lymph node and visceral involvement may follow. The disease is chronic in course, displaying numerous clinical variations. Two cases of mycosis fungoides complicated by the development of cutaneous squamous cell carcinoma will be discussed. One of the two patients developed metastatic squamous cell carcinoma from an initial primary cutaneous lesion. Both patients were treated for long periods with topical nitrogen mustard in addition to systemic therapy. The question of topical nitrogen mustard induction of squamous cell carcinoma is raised. Acta Dermatovener (Stockholm) 58:421-425, 1978.

Split Groin Flap. MERRILL S. CLIMO, MD, *Falls Church.*

This paper describes the vertical splitting of an axial pattern groin flap, a technical modification which extends the usefulness of this flap in reconstructive surgery of the hand. Ann Plastic Surg 1:489-492, 1978.

Hepatic Hemangioendothelimomas and Hyperbilirubinemia. GREGORY G. SMITH, MD, JACOB A. LOHR, MD, BRADLEY S. MALCOLM, MD, and RICHARD W. KESLER, MD, *Charlottesville.*

A 3-week-old infant with hyperbilirubinemia and hepatomegaly secondary to hemangioendotheliomas of the liver is presented. Review of the literature produced 18 cases of associated jaundice in 182 infants with hepatic vascular tumors, an incidence of 10%. This disorder should be considered in the differential diagnosis of the infant with hepatomegaly and jaundice, particularly in the presence of gastrointestinal complaints, cutaneous hemangiomas, congestive

heart failure, or abdominal bruit. Liver scan should be done in such infants to rule out vascular tumors. Although mortality appears to be high in jaundiced infants with such tumors, currently available therapeutic modalities may be of value in treating these infants. South Med J 11:1439-1440, 1978.

Natural History of Bacteriuria in Schoolgirls: A Long-Term Case-Control Study. JAY Y. GILLENWATER, MD, and R. BRENT HARRISON, MD, *Charlottesville,* and CALVIN M. KUNIN, MD, *Columbus, Ohio.*

To define better the natural history of bacteriuria in females, we followed 60 schoolgirls with bacteriuria and 38 matched controls for periods ranging from nine to 18 years. Among the schoolgirls with bacteriuria ($\geq 10^5$ organisms per milliliter in two or more consecutive cultures), reflux was repaired in five, nephrectomy was performed in two, and reduced inulin clearance was noted in one subject with atrophic pyelonephritis. Serum creatinine was slightly higher in cases than in controls. Renal scars of caliectasis occurred in 16 cases but in none of the controls. Blood pressure was similar in both groups. Episodes of bacteriuria in cases and controls were, respectively: five or more episodes, 21.7 and 2.6 per cent; and episodes during pregnancy, 63.8 and 26.7 per cent. Seven children of the cases but none of the children of controls showed urinary-tract infections. Bacteriuria among schoolgirls defines a group at great risk of recurrent symptomatic infections and renal scars and at low risk of reduced renal function. N Eng J Med 301:396-399, 1979

Effects of Acid Aspiration on Pulmonary Alveolar Epithelial Membrane Permeability. FREDERICK L. GLAUSER, MD, J. EUGENE MILLEN, BS, and RANDALL FALLS, BS, *Richmond.*

Employing a modification of the in vivo model of a liquid-filled canine lung, we measured the movement of substances of specific sizes (albumin, 69,000 daltons with a molecular radius of 35 A; and dextran with a molecular weight of 150,000 to 170,000 and an approximate molecular radius of 100 A) from the pulmonary capillary blood to the liquid-filled lung. A solution with a specific pH (1.5 to 4.5) was instilled into the left lung of the animals at a dosage of 3 to 5 ml/kg of body weight. For both albumin and dextran with a molecular weight of 150,000 to 170,000, the time for 50 per cent equilibration between the specific substance in the blood and the same substance in the pulmonary liquid decreased significantly with installation of pulmonary liquid with a pH of 1.5 and 2.5 but did not with a pH of 3.5 or above ($P < 0.05$). In addition, since histamine has been implicated as a possible humoral mediator leading to increased permeability of alveolar membranes, the levels of histamine were measured in pulmonary liquids and blood in all groups. Levels of histamine in the pulmonary liquid (but not blood) were significantly higher in animals with instillation of liquids with a pH of 1.5 and 2.5 compared to all others. Chest 76:201-205, 1979

Cervical Cerelage: Twenty Years' Experience. WILLIAM A. PETERS III, MD, SIVA THIAGARAJAH, MD, and GUY M. HARBERT, JR., MD, *Charlottesville.*

During a 20-year period, 40 pregnancies were managed in 32 patients with a diagnosis of an incompetent cervix, a ratio of 1:775 deliveries. Diagnosis before development of symptoms produced a 92% fetal salvage, with 68% reaching 36 weeks of gestation. Development of symptoms before cerclage resulted in only a 40% fetal salvage. Fetal salvage was reduced in cases where membranes bulged beyond the cervix, the cervix was more than 3 cm dilated, or the gestational age was greater than 26 weeks at the time of suture placement. No difference was noted between the Shirodkar and McDonald procedures. Major complications included uterine rupture in three patients and acute chorioamnionitis in two. Because of complications, treatment is contraindicated based on history alone or where close follow-up is not available. South Med J 72:933-937, 1979

Current Heart Valve Prostheses. EDWARD A. LEFRAK, MD, *Falls Church,* and ALBERT STARR, MD, *Portland, Oregon.*

Current heart valve prostheses may be classified as either mechanical or tissue values (bioprostheses). The principal advantage of mechanical devices is their established long-term durability; however, chronic anticoagulation is recommended to reduce the incidence of thromboembolic complications. Tissue values are associated with a relatively low rate of thromboembolism but their durability level has not been determined. All contemporary prosthetic heart values yield comparable survival rates. Am Fam Phy September 1979, pp 93-99

Situs Inversus and Appendicitis. KIM A. CARMICHAEL, MD, and WILLIAM E. GAYLE, JR., MD, *Richmond.*

Two cases of left lower quadrant appendicitis associated with situs inversus totalis are presented. Historic, genetic, and embryologic aspects of situs inversus, as well as recent theories regarding etiology are discussed. The clinical recognition of appendicitis in situs inversus is often difficult because of the un-

usual location of the appendix and abnormal pain localization. The differentiation of situs inversus totalis and abnormal rotation of the abdominal viscera (situs indeterminus) is important surgically because fixation of the midgut loop may be indicated in patients with situs indeterminus. South Med J 72:1147-1150, 1979

Hematopoietic Stem Cells. PETER QUESENBERRY, MD, *Charlottesville,* and LEE LEVITT, MD, *Boston.*

In man, most tissues consist primarily of differentiated cells that normally show little evidence of proliferation and self-renewal. However, the gastrointestinal mucosal cells, the skin and the hematopoietic–lymphoid tissues continually renew themselves and thus proliferate and differentiate extensively. In each system, a small number of stem cells have the capacity for self-renewal and differentiation, and the more mature cells are derived from these stem cells. Derangements of stem cells or their regulators could result in serious illnesses, and many diseases of the hematopoietic system appear to be stem-cell disorders. These diseases include aplastic anemia, chronic myelocytic leukemia, acute myelocytic leukemia, polycythemia vera and myelofibrosis myeloid metaplasia. The mechanisms that appear to cause these disorders and others are discussed in this 3-part article. N Eng J Med 301: Part 1, 775–760; Part 2, 819–823; Part 3, 868–872; 1979

Human Infection from an Unidentified Erythrocyte-Associated Bacterium. GORDON L. ARCHER, MD, PHILIP H. COLEMAN, DVM, PHD, ROGER M. COLE, MD, PHD, RICHARD J. DUMA, MD, PHD, and CHARLES L. JOHNSTON, JR., MD, *Richmond.*

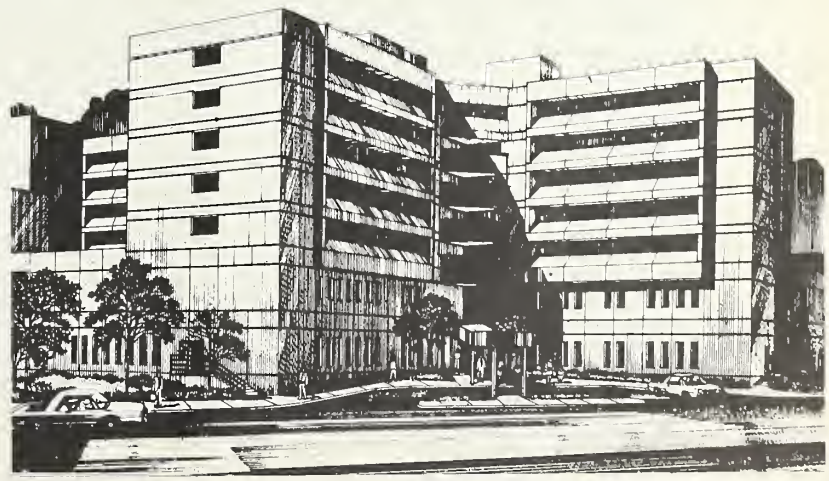
A 49-year-old splenectomized man had an infection from an unidentified, gram-positive, rod-shaped bacterium that adhered to the majority of his peripheral-blood erythrocytes. On transmission electron microscopy, the bacterium was seen to be extra-erythrocytic and was 0.2 μm wide by 1.0 to 1.7 μm long. It possessed a thick, granular cell wall, a trilamellar membrane external to the cell wall and prominent mesosomes. Attempts to cultivate the organism in vitro or to duplicate the patient's disease in splenectomized animals were unsuccessful. The patient's response suggested that the bacterium was susceptible to cell-wall-active antibiotics and to chloramphenicol but not to tetracycline. This bacterium may be the cause of other chronic, fever-producing, multisystem diseases of unknown origin. N Eng J Med 301:897–900, 1979

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VIRGINIA MEDICAL
EDITORIAL

"Whither Geriatrics?" Revisited

FIVE years ago, out of despair and loneliness I wrote a paper—never published—"Whither Geriatrics." As one of the very few physicians in the country who called himself a geriatrician at the time, the paper was an exercise in trying to preserve my self-esteem and, thus, my sanity. I said then and I say again, today, that for a number of reasons—social, medical, and economic—geriatrics will require more attention than it has in the past.

Data indicate that America's society is aging. Approximately 11% of our population, some 23 million people, are now 65 or older. By the year 2000 this number will exceed 30 million, or 15%. Given these demographic facts of life, it has been discouraging to us geriatricians that we have not yet been able to establish for ourselves a fully recognized and appreciated place in the medical scheme of things.

This lack of recognition is due to a number of causes, beautifully documented in Robert Butler's Pulitzer prize-winning book, "Why Survive: Being Old in America."[1] Dr. Butler pointed out that there are many prejudices and misconceptions against the old which he lumped together by using the term "ageism." A reflection of this bias are such terms as "crock" and "turkey", which all of us may have applied at one time or another to a very old patient who did not oblige us by either dying or getting better.

About 40% of hospital and physician income is derived from patients over 65. The burgeoning nursing home industry was a 3.5 billion dollar business in 1973 and is much larger now. Yet the care of the elderly remains inadequate, inappropriate, or both.

There are several reasons for this. The emphasis in medical education has been on technological advances that keep people alive longer. We now put a high value on the preservation of human life without sufficient attention to the kind of life that is being preserved. I seriously question the notion that preserving a life to be lived out in the average nursing home is a medical triumph.

Which leads to another reason I believe that much care for the elderly is inappropriate: Technically oriented physicians have not been trained to deal with social problems. Indeed, I have heard some very conscientious physicians disclaim any responsibility for the ordering of society; they say that their responsibility stops at the clinic or hospital door. To me it seems this attitude needs to be changed.

But how are attitudes to be changed? I know of three ways attitudes can be changed in all but the most rigid: The first is education; the second is suitable reward; the third is punishment or the fear of punishment.

In a broad sense, education in geriatrics is just getting started, because of a number of fairly recent developments. In 1977, the National Institute on Aging was established with a comparatively modest budget that has grown each year. Also in 1977, the American Geriatrics Society published a brochure, "Education in Geriatrics." In 1978, a distinguished committee of the National Academy of Sciences, chaired by Dr. Paul Beeson, recommended:[2]

This article was presented orally at the scientific program of The Medical Society of Virginia's Annual Meeting in Hot Springs, Virginia, on November 2, 1979.



The Pensive Man, by Carl W. LaFratta, MD. This expressive photograph of an elderly Virginian has won many national prizes. Dr. LaFratta is a past president of the Camera Club of Richmond.

• That medical schools include appropriate content on aging in basic and clinical science courses and favors the establishment of a complementary required course that integrates knowledge about aging and the problems of the elderly.

• That preparation for care of the aged be included in clinical clerkships and in housestaff training programs, as well as in examinations for certification and licensure.

• That nursing homes and other long-term care facilities be included in clinical rotations for medical students and housestaff. Experience with home health programs and other alternatives to institutionalization is also desirable.

• That teaching about aging receive increased emphasis in continuing medical education and sponsoring organizations support increased geriatric content in CME programs.

• That medical schools develop a cadre of faculty to teach gerontology and geriatrics to medical students and housestaff, and that a) post-residency training or fellowship programs be developed in settings that have a potential for promptly developing it; and b) a limited number of career development awards in gerontology and geriatrics be established.

• Against the establishment of a formal practice specialty in geriatrics, but in favor of the recognition of gerontology and geriatrics as academic disciplines within the relevant medical specialties.

• That efforts to meet the educational needs of medical directors of skilled nursing facilities be assumed jointly by medical schools and the nursing facilities.

• That funding be expanded in various aspects of aging research, including basic biological and behaviorial sciences, clinical medicine and health services research.

In summary, the report says we all must do a better job in educating physicians and others to take care of old people. I believe most thoughtful people will agree with the report's recommendations.

But what about reward that will change attitudes? The second way to change attitudes is making it profitable. To quote Dr. Butler:

> *Medicare was intended to serve medical needs of the old, but it failed to consider their most pressing need—that of chronic care for long-term diseases and disabilities. Medicare is oriented toward short-term acute illnesses and accidents. Thus American medicine's peculiarly limited definition of medical care as acute care is reinforced by Medicare, which excludes payment for chronic care unless an acute exacerbation of the chronic condition occurs.*[1]

Thus we see that there is little support for a physician who wants a private practice to take geriatrics as a specialty. Indeed, there are good financial reasons why many physicians don't care to treat many old people. As a practitioner of geriatrics, I have often wondered why Medicare would pay for such procedures as the removal of a lump or a bump—requiring little or no talent—but would not pay a reasonable fee for a housecall or an office visit. Clearly, something needs to be done by society in general if it wants rational health services for older people.

Home health services of various types have proven to be economical in several areas of the country, including Virginia. Visiting nurses, homemaker services, physical therapists—all are important in keeping an old person comfortable in his home.

What is needed, clearly, are insurance schemes and legislation that would encourage people to live and die at home. Schroeder et al wrote:[3]

> *... even in an acute care setting, a substantial amount of high-cost chronic illness is treated ... data indicates that without a formal social decision on this matter, a large portion of national catastrophic health insurance resources will be devoted to persons who will die soon after receiving high-cost medical treatment.*[3]

The conclusion one inevitably reaches is that a physician should treat some patients elsewhere—reasonably and humanely—than in acute care settings. It is encouraging that the hospice movement, much in the literature these days, is addressing this problem.

The third way of changing attitudes is by coercion, by the threat of punishment. Alas, we are too aware of hospital utilization review committees, of health planning agencies, of certificates of need, and a number of other regulations that give us pain. In the long run, however, such regulations may help a rational system for the care of the elderly to evolve, as suggested by Portnoi.[4]

Let us, then, examine the evidence, the events of the last few years. There are a growing number of old people to whom politicians are, rightly, responding. There will undoubtedly be more emphasis on education in geriatric medicine. More emphasis will be placed on the treatment of chronic diseases. Much of the treatment will be given in places other than in acute-care hospitals by people other than physicians. Social problems will assume much greater importance in the care old people receive. The appropriateness and economy of health services will be even more closely scrutinized.

What, then, should the stance of organized medi-

cine be? Like it or not, physicians are being expected to call the shots. We are going to decide what appropriate services are, in consultation with nurses, social workers, nurse practitioners and therapists of several kinds.

As an aging physician who has made thousands of house calls; who has explored certain trends in medical education; who can remember when hospital beds were scarce; who believes that, occasionally, death is a reasonable alternative to a semblance of life; who believes that caring for patients is often as important as curing diseases—I am optimistic.

As the report states, I don't envision a separate specialty of geriatrics to look after all old people. I do see a growing respect for geriatrics in educational and institutional settings and an important element in all branches of medical practice.

I would advise all my medical colleagues, with the possible exception of pediatricians and obstetricians, to practice what geriatrics has to teach or be resigned to a life of professional frustration. For I believe that dedication to the humane, appropriate care of elderly people will help us regain some of the self-respect and public esteem we have lost in recent years.

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A Centennial of Note

THE first of June marks the 100th anniversary of the founding of the American Surgical Association. This statement in itself does not sound too earth-shaking, but two considerations set it apart.

The American Surgical is unquestionably the senior surgical society, not only in terms of American medicine but by world standards as well. A second consideration, and primarily of local significance, is that following an initial meeting on June 1, 1880, in New York, the first organizational meeting was held in the House of Delegates chamber in our state capitol in Richmond.

In retrospect, the choice of Richmond seems a little odd, in view of Richmond's geographic location and its recent role in Confederate history. Almost all of the founding fathers of the American Surgical were from the north. Only six members lived below the Potomac; we find the states of Alabama, Tennessee, South Carolina and Georgia represented by one member each, and Virginia had two—one from Richmond and the other from Charlottesville. But the surgeon in Richmond was Hunter Holmes McGuire, and it would be said of him, as it was of Highlander MacGregor, "Wherever he sat was the head of the table."

When the surgeons gathered on May 5, 1881 the least historically minded could hardly have failed to think back 16 years on the Confederate Congress that for four tempestuous years had met in the same room.

The next meeting, the first scientific session, was held at an unusual time, in September of the same year, and at an even more unlikely location—Coney Island. The following spring found the members in Philadelphia.

With one exception—when they visited New Orleans in 1898—the members did not venture south again until May 1908, when they met in Richmond at the Hotel Jefferson. Their final visit to Richmond came in 1927, when they were guests of Doctors Stuart McGuire and J. Shelton Horsley.

In recent years the society has held most of its meetings in swanky resort hotels, and this has been a boon for Virginia members, for visits to the Homestead and the Greenbrier are always enjoyable, and also saving of gasoline.

The greatest change in the organization has been in the increased membership. For years the membership hovered about 100, but it has burgeoned to more than 800 members. The increase has been due, in part, to the proliferating medical schools, for election to membership in the American Surgical Association has become almost automatic for chairmen of surgical departments in teaching centers.

The society has 42 honorary and corresponding fellows who bridge the spectrum from The Lord of Marlow, whose office is at 149 Harley Street, London, to Doctor Wu of Fu Wai Hospital in the People's Republic of China.

H. J. WARTHEN, MD

VIRGINIA MEDICAL OBITUARY

R. I. McClaughry, MD

Dr. Robert Irvin McClaughry, Alexandria, died March 22 in Ocean City, Maryland, at the age of 59.

Born in Cambridge Springs, Pennsylvania, Dr. McClaughry attended the University of California, was graduated from the Wayne State University School of Medicine in Detroit and interned at Huntington Memorial Hospital, Pasadena, California. He served in the military between 1941 and 1945, first as a medical lab technician and then as a laboratory officer for the Army Sanitary Corps, and taught medicine for several years before going into private practice.

At his death, Dr. McClaughry was director of house services at Mount Vernon Hospital, medical director and president of the Lee-Mount Vernon Family Practice Center and medical director of the Mount Vernon Nursing Center. A longtime member of The Medical Society of Virginia, he belonged also to the American Academy of Family Physicians and the American Society of Hematology.

John Foster, MD

Dr. John Foster, Norfolk, died March 12 at his home at the age of 66 years. On his retirement because of illness in 1978 he was director of radiology at De Paul Hospital, Norfolk.

Born in Toronto, Canada, Dr. Foster was graduated from the University of Toronto and its medical school. He served an internship at Long Island College Hospital and a fellowship at Memorial Hospital, New York City. For a time he was an assistant professor at Cornell University Medical School.

Dr. Foster had been a member of The Medical Society of Virginia for 28 years and belonged also to the Norfolk Academy of Medicine, American Medical Association, American College of Radiology and Radiological Society of North America.

P. H. Drewry, Jr., MD

Dr. Patrick Henry Drewry, Jr., Richmond, died April 8 in a Richmond hospital at the age of 73. Prior to his retirement he was director of outpatient psychiatric clinics at the Medical College of Virginia Hospitals.

Eldest son of the late Rep. Patrick Henry Drewry, who represented the 4th congressional district between 1920 and 1947, Dr. Drewry was a 1928 graduate of Randolph-Macon College and earned his medical degree at Johns Hopkins University. He trained at New York Hospital, Westchester division, where he then served on the staff for two years. Before coming to Richmond he studied for a year at Guys Hospital, London, on a Rockefeller Foundation fellowship.

Dr. Drewry headed the MCV clinics from 1940 to 1970 and was a professor of psychiatry at his retirement. An accomplished writer on clinical psychiatry, he was a frequent contributor to this journal.

He had belonged to The Medical Society of Virginia for 40 years and held memberships also in the Richmond Academy of Medicine, American Medical Association, Virginia Neuropsychiatric Society and American Psychiatric Association.

Memoir of T. S. Shelton 1888-1979

By Melvin E. Yeamans, MD, Charles L. Williams, MD, and James R. Wickham, MD

Turner Southall Shelton was born January 27, 1888, in Hanover County, Virginia. He died at the age of 91 on December 15, 1979.

Dr. Shelton was graduated from the Medical College of Virginia in 1910. He served in the medical corps during World War I, and upon discharge he returned to the practice of medicine in South Richmond, which was then known as Manchester. There he remained in active practice until his retirement in 1967.

He was a member of the American Medical Association, The Medical Society of Virginia, Richmond Academy of Medicine, American Academy of General Practice and its component societies, and was a charter member of the Manchester Medical Society. Dr. Shelton was also a member of the Manchester Lodge No. 14 and the Woodland Heights Lodge No. 345 of the Masonic Order. He was a member of the Country Club of Virginia, the Chi Zeta Chi medical fraternity and Post No. 137 of the American Legion.

Dr. Shelton spent over 50 years in the practice of medicine, to which he was very dedicated. Many of his patients were devoted followers for most of his

years of practice. He often reminisced how, during his early days of practice, he would set out in his horse and buggy at all hours of the night to treat seriously ill patients in their homes and to make home deliveries in obstetrical cases. It has been said that he owned the first automobile in South Richmond. He kept abreast of the rapidly changing times in medicine by reading and attending seminars and scientific meetings. He described in a published article the first case of tularemia in a human in the state of Virginia.

His main hobby was gardening, and he loved more than anything to work in his large yard, which surrounded a large old antebellum home on New Kent Avenue in South Richmond, where he lived for many years. He also loved fishing and spent most of his brief out-of-town moments at his cottage at Deltaville, Virginia.

Many of his friends, patients and associates, have described him as being a down-to-earth, sincere, humanistic person who seemed dedicated to helping others. With the passing of Turner Southall Shelton also passed an era in the history of medicine.

He is survived by his wife, Mrs. Ella Pollard Shelton, and a daughter, Mrs. Eleanor Smith of Mount Pleasant, South Carolina.

Prepared and published at the request of the Richmond Academy of Medicine.

Memoir of E. C. Schelin 1910-1980

By W. C. Winn, MD, W. Glenn Hurt, MD, and Adney K. Sutphin, MD

In each generation there are exceptional individuals whose lives are an inspiration and joy to all who are privileged to know them. Dr. Eric Carl Schelin, professor emeritus of obstetrics and gynecology, Medical College of Virginia, was one of those individuals.

Dr. Schelin was born in Sweden on January 22, 1910. He was brought to the United States when 18 months of age. He was raised in Rockford, Illinois, surrounded by loving relatives in the then predominantly Swedish community. He received his undergraduate education at Northwestern University and at the University of Iowa. Marquette University awarded him his MD degree in 1935. His postgradua. education was extensive and included the New York Polyclinic Hospital, the Free Hospital for Women in Boston, and the Medical College of Virginia Hospital. In 1939, he was appointed to the faculty of the Medical College of Virginia as clinical instructor in obstetrics and gynecology. He was appointed clinical professor in 1962 and became a full-time faculty member in 1968. Because of failing health, he retired as Professor Emeritus in 1978.

Dr. Schelin held membership in many societies, including the South Atlantic Association of Obstetricians and Gynecologists, Southern Gynecological and Obstetrical Society, American College of Obstetricians and Gynecologists, American College of Surgeons, Southern Medical Association, Richmond Academy of Medicine, The Medical Society of Virginia and the American Medical Association.

During World War II, he served his country as a captain in the US Army with the 116th Evacuation Hospital and the 130th Station Hospital.

He was a warm and highly respected physician and member of his community. His students and colleagues valued his teaching, his counsel and his wisdom. Although the author of many scientific papers, he did not write a textbook, invent an instrument or develop a surgical procedure by which his name will be recognized, but, through the example of his commitment to excellence and his intellectual honesty that brooked no compromise, his life will be an influence for good in generations of medical students yet unborn.

In 1976 an annual award was established in his name, anonymously, by one of his former students, for the student with the most outstanding performance in obstetrics and gynecology at the Medical College of Virginia.

In 1977, he was the recipient of the annual Louise Obici Memorial Staff Award for outstanding contributions to the medical profession.

The last two years of his life were marked by increasing pain and debility, but his never-failing grace and instinctive courtesy did much to ease the anguish experienced by his family and friends. On February 3, 1980, as it was said of Bobby Jones, "He quit the scene on which he nothing common did, or mean."

Dr. Schelin was a member of the First Presbyterian Church and a former member of the Commonwealth Club.

He is survived by his wife, Frances, his daughter Carol Updike, his son, Charles, and four grandchildren.

Prepared and published at the request of the Richmond Academy of Medicine.

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Virginia Medical Classified insertions accepted at the discretion of the Editor. Rates: $10 per insertion for 50 words or less, 10¢ per word in excess of 50. Classified display available at $20 per 50 words. Copy due by the fifth of the month prior to month of publication. Send to the Managing Editor, 4205 Dover Road, Richmond VA 23221.

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Uniformed Military Division of the Department of the Navy has limited openings available in several residency training programs. These include:

Available 1 July 1980

Speciality	Location	Level
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ENT	Bethesda, MD	2
Pathology	Oakland	2
Psychiatry	Oakland	2
Aerospace Med	Pensacola, FL	2
Nuclear Medicine	Oakland	1

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Anesthesiology	Bethesda, Oakland	3
Family Practice	Camp Pendleton, Jacksonville, FL	2
Family Practice	Charleston, SC	2,3
Internal Medicine	Portsmouth, San Diego	3
Nuclear Medicine	Bethesda, Oakland	2
Orthopedics	Portsmouth, Oakland	2
ENT	Bethesda, Oakland	2,3,4,5
Pathology	Oakland, San Diego	1,2
Pediatrics	Portsmouth	2,3
Psychiatry	Portsmouth	2,3,4
Radiology	Bethesda, San Diego	4
Urology	Bethesda, Portsmouth	2,4
Aerospace Med	Pensacola	2,3,4

Limited fellowships available in certain specialities available for immediate and July 1980 assignment.

For more information contact Mr. Dick Kurtich, 1-800-552-9947 toll free or (804) 270-9174 collect.

WHO'S WHO



Plans are underway for the 133rd Annual Meeting of The Medical Society of Virginia and the allied meeting of the Auxiliary, and in the photograph above are gathered those who are doing the planning. The men in the picture are all members of the Newport News Medical Society, which will be the meeting's host; at far left front is their president, Dr. Benjamin E. Norfleet. Next to him is the Auxiliary's president, Mrs. Charles G. Smith, and beside her is her appointed program chairman, Mrs. William J. Reardon. At the far right, front row, is Dr. James K. Davis, who is charged with conducting the tennis tourney. The chairman of the Arrangements Committee is Dr. William H. Sipe; he is standing at far left of the second row. Next to him is Dr. John Q. Hatten, who is planning the golf tournament, and at far right of the second row is Dr. Harold L. Williams, who will orchestrate the Saturday night banquet. The dates of the meeting: November 6 to 9. Place: Williamsburg Conference Center. Your program will be in the October issue, and on page 420 of this issue you will find directions for making hotel reservations.

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Costs Enter Virginia's Curriculum

Students at one of Virginia's medical schools are soon to be enrolled in a formal class in cost consciousness that is among the first of its kind in the nation's medical schools and teaching hospitals.

Site of the innovation will be the Medical College of Virginia in Richmond, where schooling in medical costs will be introduced into the curriculum from the first year through the fourth, will become a part of graduate training, and will be incorporated into MCV's continuing medical education programs for practicing physicians.

Dr. Robert W. Jessee, professor of preventive medicine at MCV, developed the grant proposal for the course in conjunction with the medical school dean, Dr. Jesse L. Steinfeld. Coordinator of the program will be Dr. Frederick J. Spencer, chairman of the Department of Preventive Medicine.

Money to implement the project will begin arriving this month under grants from the W. K. Kellogg Foundation and Blue Cross-Blue Shield of Virginia. The total amount to be contributed is $111,000. Blue Cross-Blue Shield, which has been promoting cost containment for several years, will provide at least half that total.

According to the proposal that won the grants, first-year students are to receive 20 hours of classroom instruction in cost considerations and second-year students ten hours. Topics to be dealt with range from such basic subjects as the economics of health care delivery to the cost specifics of alternative modes of care.

During the third and fourth years, when students are working with patients, costs will be an integral part of case management discussions and other illustrative situations. For interns and residents, the cost

issue will be raised during ward rounds, and cost reminders will be devised. The MCV Hospitals' computerized procedure-ordering system, for instance, could flash the cost of each procedure on the screen for the ordering physician to see.

Studies prompted by the rise in medical costs indicate that doctors are handsomely schooled in how to diagnose and treat patients but haven't a clue as to how much those diagnoses and treatments cost. The new course is designed to counter that charge.

Whether they've been educated to cost consciousness or not, "doctors are hearing the new social signals about cost control, and are once again being socially responsive," says economist Duncan Neuhauser, PhD, in a recent issue of the *Western Journal of Medicine*[1].

"It is hard nowadays to find a physician who is not well aware of medical costs and is not thinking hard about cost control," Dr. Neuhauser observes. "Doctors are aware that insurance payments are sending out screwy signals. Third parties reward doctors for doing and not for thinking, and they reward some specialties more than others for no rational reason."

Dr. Neuhauser believes the problem of costs may be more the problem of absence of choice of alternative health benefit packages with price differences. "The idea that patients may wish to choose between different ways of paying for their medical care has a long history", he notes. In illustration he cites "the oldest statement about American medical economics known to me"[2]: In 1721, Dr. William Douglas of Boston offered his patients the option of fee-for-service payment or "five pounds per annum sick or well," thus offering his own independent practice association/health maintenance organization option. A.G.

1. Neuhauser D: Cost containment: an economist's view. West J Med 132:413-417, 1980
2. Carels E, Neuhauser D, Stason W: The Physician and Cost Control. Cambridge MA, Oelgeschlager, Gunn & Hain, 1980, pp 91-93

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Adam Stephen: Virginia Physician, Soldier of Misfortune

E. Randolph Trice, MD, *Richmond, Virginia*

"I have read with great interest the account of the battle of Germantown . . . to see if our defeat was in any way attributable to the misconduct of General Stephen . . . and I cannot find a single imputation upon his conduct." —C. J. Faulkner[2]

THE Virginia physician who achieved the highest rank in the Continental Line was Adam Stephen. He was promoted to Major General in February 1777.

In Martinsburg, West Virginia, there is a large pyramid marking the grave of Adam Stephen. It is maintained by the local citizens as a memorial to the founder of the city, who was in his time an intimate friend of Lord Dunmore, a protege of Lord Fairfax and a close associate of George Washington.

Little is known of Stephen's early life. He is thought to have been born in 1718 in the Highlands of Scotland near Aberdeen. After graduation from King's College, University of Aberdeen, he studied medicine at Edenburgh and in London. In 1746 he was a naval surgeon.

After the Battle of Cullodon, Stephen, like many other Highland Scots, migrated to America. He settled in Stafford County at Falmouth in 1748 and conducted a practice in the Fredericksburg area for about five years. He is credited with at least two bold surgical procedures. Called in consultation to a lady with hepatic abscess, Dr. Stephen, against the advice of other consultants, boldly incised and drained the liver, achieving a cure. On another occasion he successfully ligated an aneurism of the arm.

In 1754 information reached Williamsburg that the French and Indians had taken possession of the northwestern portion of Virginia on the Monongahela, murdering and driving away the settlers of that section. The Assembly authorized the raising of six companies for the recovery of that territory. Young George Washington was given the command, and Stephen, who had raised a company at Winchester, was second in command. In August of that same year the regiment was reorganized with Washington as a colonel, Stephen as lieutenant colonel and Andrew Lewis as major. These three men were to share responsibility for protection of the Virginia frontier for the next ten years.

Their first expedition into the wilderness was a miserable failure and resulted in the surrender of Fort Necessity. The next year (1755), attached to General Braddock's army of regulars, they suffered another defeat at the battle of Monongahela near Fort Duquesne. Here Stephen was wounded twice. His additional misfortune is best described in the following report submitted to the House of Burgesses:

Camp at Will's Creek
August 1, 1755

Gentlemen:

We have the misfortune to lose our Horses, Furnature, Tents, Marquees,

This is the third in a series of biographies by Dr. Trice on Virginia physicians who figured in the American Revolution. The two previous works were on Arthur Lee, in the July 1979 issue, and on Theodorick Bland, in the February 1980 issue.

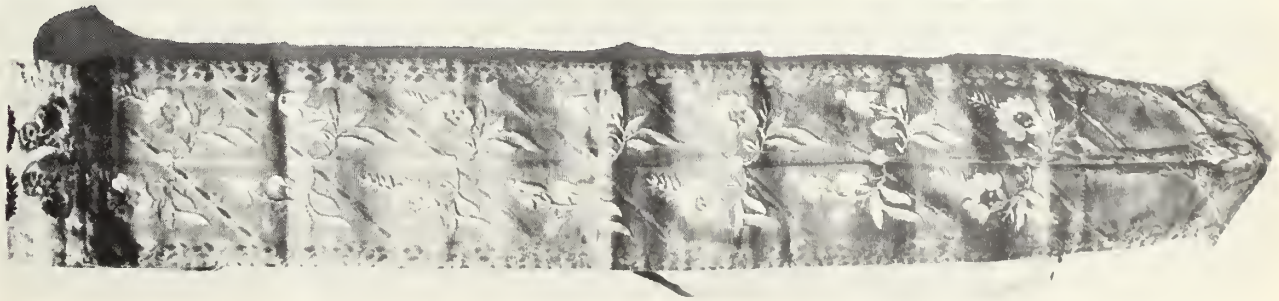
Address correspondence to the author at the McGuire Clinic, 7702 Parham Road, Richmond VA 23229.



Adam Stephen wore this British army uniform waistcoat when he fought as a lieutenant colonel in the French and Indian War of 1754-1763. Of red broadcloth, gold laced, this vest exemplifies the famous "red coat" of British martial history.



With the red waistcoat Adam Stephen wore this brass gorget, or throat protector (right), which is decorated with the British coat of arms, and the embroidered belt pictured below. All the articles of wearing apparel on this page are in the collections of the Smithsonian Institution, where they are much prized for their rarity. *Photographs courtesy Smithsonian Institution.*



Cloaths, Linnens, in short all our Field Equipage in the late action on Monongahela, which we hope you will be so good as to take under your consideration in some measure, compensate our losses and enable us to take the Field again. . . . . .

Your most faithful and obedient servents
Adam Stephen
Thomas Waggoner
Robert Stewart
James Craik
William Bronaugh

The next year Colonel Stephen was in command of Fort Cumberland on the frontier. In 1757 he accompanied Washington in a successful campaigne against Fort Duquesne, which after its capture was renamed Fort Pitt. The following year he proceeded south against the Creek Indians. In 1763 he fought the Shawnees, Delawares, Wyandotts and the other Indian tribes in Pontiac's War. His conduct in these campaigns received plaudits from Lord Jeffrey Amherst, commander of all British forces in America, and from Governor Fauquier.

In subsequent years Stephen shared with Col. Andrew Lewis the responsibilities of protecting the western frontier from his command at Fort Loudoun at Winchester. And in 1768, peace having been established with France, Stephen, now a brigadier general in the state militia, returned to his home in Frederick County—after fourteen years of almost continuous military service.

During these campaigns Stephen appears to have had the confidence of Washington. The two men labored together to secure the bounty lands promised by the Assembly to those who served in the wars. They were successful—and in the process Stephen was able to amass a sizeable fortune. By the time of the Revolution he had approximately 10,000 acres in Western Virginia, including a hunting lodge near Shepardstown, a residence near Winchester, and large holdings in Frederick County. Stephen was a leading citizen in the region, occupying the office of "Gentleman Justice and High Sheriff." In 1772 Berkeley County was formed from part of Frederick County and Stephen represented the new county in the Assembly. Stephen was at the height of his career.

Stephen was a delegate to the Virginia Convention in Richmond in 1775 when, as a result of Henry's "Liberty or Death" speech, troops were authorized. Within a year nine regiments had been raised, one of them, the 4th Virginia Regiment of foot, commanded by Stephen. With the help of a smallpox epidemic, Stephen drove his former friend Dunmore out of Norfolk. He was promoted to brigadier general and took his brigade north to join Washington's Continental Army in December 1776.

Encouraged by the arrival of additional troops, Washington determined to take the offensive for the first time on Christmas Eve 1776. After his famous crossing of the Delaware he planned to surprise the Hessians at Trenton. The Army was divided into three brigades; Stephen's brigade embarked first and secured the landing area. Unfortunately one of Stephen's Virginians had been killed the day before by a Hessian, and a company of Virginians, determined to seek revenge, crossed the river and attacked a Hessian outpost. Hearing the action as he approached Trenton, Washington feared that the element of surprise had been lost by this precipitous action. He turned to Stephen in a rage. "You sir," he is reported to have declared, "may have ruined all my plans by putting them on guard". Actually, Stephen's action may have been a blessing, for the Hessians, having suspected some sort of attack, assumed that the skirmish with the Virginians was it. When the Virginians withdrew, the Hessians returned to their beds, completely unaware that troops under Hugh Mercer, Lord Stirling, and John Sullivan were bearing down on them. The results were a decisive success, with 106 Hessians killed or wounded and 918 captured. The Americans lost four men, two of whom froze to death and three or four wounded. The victory, though minor, was complete and had a salutary effect on American morale.

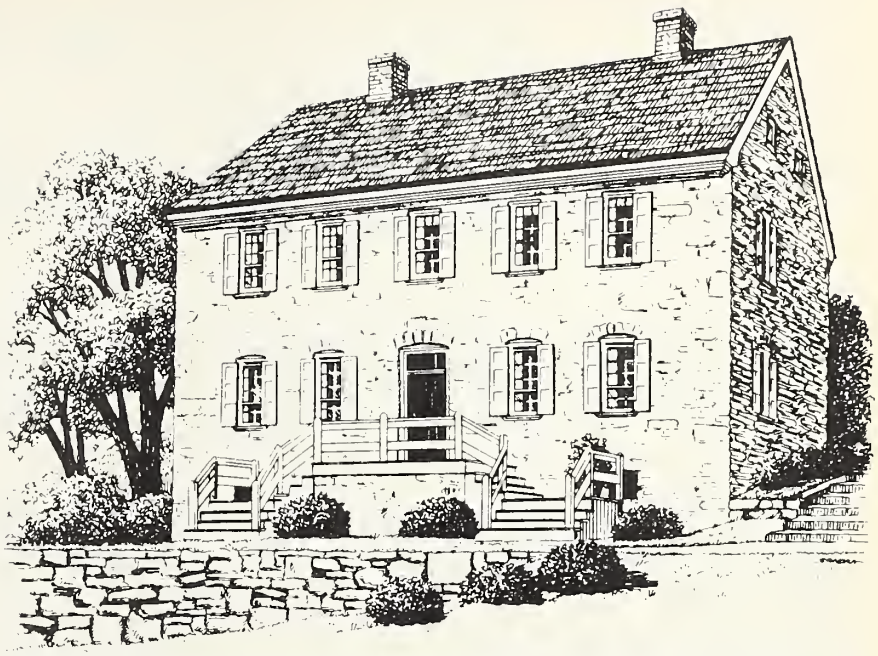
Washington pushed on to Princeton, where Stephen generally distinguished himself. He was promoted to major general and given a division, which, at the Battle of Brandy-

wine, was in the center of the action. Again his performance was most satisfactory.

In spite of his bravery and experience, Stephen had certain faults which irritated Washington. One was his tendency to independent action, which Washington considered insubordination. His inclination to exaggerate his exploits was interpreted as falsehood. His heavy drinking was considered conduct unbefitting an officer. In spite of these limitations, Stephen did well until the Battle of Germantown, when he met misfortune again.

The Battle of Germantown got messed up early in the day. Heavy fog decended on the battlefield, making it difficult to distinguish friend from enemy. Troops under Sullivan and Wayne were delayed by a small garrison of British who occupied Clivedon, the Chew mansion. Greene's troops took a wrong turn on the road to the battlefield. In the smoke and fog and confusion, troops of Stephen's division mistook Wayne's division for the enemy and inflicted great damage on the Americans. The artillery under General Knox never really reached the field. One entire regiment, the Ninth Virginia, was captured. Amid the general confusion the Americans were able to withdraw from the field without persuit by the British.

When, afterwards, the defeat was reviewed, and it was reported that General Stephen had been intoxicated and not able to take the field. He was charged with un-officer-like conduct and drunkenness, cashiered from the service and his command given to Lafayette. Some historians now suggest that, whatever the truth of the charge against Stephen, he simply was made the scapegoat for a combination of tactical errors and mishaps resulting in defeat.



When this sturdy limestone house was completed for Adam Stephen in 1789, it was in Frederick County, Virginia; around it, on acreage accumulated by grant and purchase, Stephen led in the development of the town of Martinsburg, now in Berkeley County, West Virginia. Severe disrepair had overtaken this landmark in the 1950s, but a gift from the late William A. Evers permitted the meticulous restoration shown in this drawing, and the house is now administered by the General Adam Stephen Memorial Association.

In any event, of Virginia's three brigadiers appointed in 1776, none remained a year later. Hugh Mercer was killed at Princeton in January 1777; Andrew Lewis resigned in April 1777; Adam Stephen was dismissed in November 1777.

Stephen returned to his home in Berkeley County. In 1778 he laid out of the town of Martinsburg, naming it after Thomas Bryan Martin, a favorite nephew of Thomas Lord Fairfax. He vigorously supported the Constitution and his vote helped secure ratification at the Virginia Convention. He died quietly in Martinsburg on July 16, 1791.

1. Blanton WB: Medicine in Virginia in the Eighteenth Century, Richmond, Garrett and Massie, 1931
2. Faulkner CJ *in* Aler's History of Martinsburg and Berkeley County, West Virginia. Hagerstown, Maryland, Mail Publishing Company, 1888, pp 149–158
3. Freeman DS: George Washington, A Biography. New York, Charles Scribner's Sons, 1951
4. Mish MV: General Adam Stephen, Founder Martinsburg, West Virginia. West Virginia History, XXII, No. 2, January 1961
5. Sellers JR: The Virginia Continental Line. Williamsburg, Virginia Independence Bicentennial Commission, 1978
6. Smith PA: New Age Now Begins. New York, McGraw-Hill, 1976

The pictures of Adam Stephen's wearing apparel were graciously provided by the General Adam Stephen Memorial Association of Martinsburg, West Virginia.

MEETINGS ABOUT MEDICINE

July 23-25
Cervical Cancer Screening: The Pap Smear (National Institutes of Health), Masur Auditorium, Clinical Center (Building 10), *Bethesda, Maryland.* Ms. Nancy Becker, 11325 Seven Locks Rd., Suite 220, Potomac MD 20854.

July 31-August 2
2nd Annual Sports Medicine Clinic (Medical College of Virginia), *Richmond.* Cat. I credits. Erma Blanchard, Dept. of CME, Box 48, MCV Station, Richmond VA 23298, (804) 786-0494.

August 13-16
4th Annual Summer Retreat: Primary Care Review (Medical College of Virginia), Sheraton Beach Inn, *Virginia Beach.* Erma Blanchard, MCV Dept. CME, Box 48, MCV Station, Richmond VA 23298, (804) 786-0494.

August 20-22
Endoscopy: What Is Its Role in Gastrointestinal Bleeding? (National Institute of Arthritis, Metabolism and Digestive Diseases), Masur Auditorium, Clinical Center (Building 10), *Bethesda, Maryland.* Mrs. Billie Mackey, Digestive Diseases/Nutrition Program, Bldg. 32, Room 9A21, Bethesda MD 20205, (301) 496-6158.

August 22-24
Clinical Management of Coronary Disease: Exercise Testing (International Medical Education Corporation), Hilton Head Hyatt, *Hilton Head, South Carolina.* 13 hrs. Cat. I. Fee, $245. IMEC, 64 Inverness Dr., Englewood CO 80112, (800) 525-8646 toll-free.

August 23-25
Tutorials in the Tetons: Cardiac Emergencies Annual Symposium (University of Nebraska Medical Center), Jackson Lake Lodge, *Moran, Wyoming.* Registration Secretary, American College of Cardiology, 9111 Old Georgetown Rd., Bethesda MD 20014.

September 9
Infectious Diseases Review (East Tennessee State University College of Medicine), *Johnson City, Tennesee.* Frances H. Rhodes, East Tennesee State University College of Medicine, Johnson City TN 37601.

September 17-19
Angus M. McBryde Perinatal Symposium (Duke University Medical Center), *Durham, North Carolina.* Fee, $75 physicians, $40 nurses Box 3967, Duke University Medical Center, Durham NC 27710.

September 18
Urban Health: Case Studies (University of Maryland School of Medicine), *Baltimore, Maryland.* Betty Saar, Room 300, 10 S. Pine St., Baltimore MD 21201, (301) 528-3956.

September 18-19
3rd Annual Conference on Aging and Health (Salem, Virginia, Veterans Administration Medical Center and University of Virginia School of Medicine), VA Center, *Salem.* Dr. Frank Brochu, VA Medical Center, Salem VA 24153, (703) 982-2463.

September 20
3rd Annual Perinatal Conference: Perinatal Infections (Medical College of Virginia/VCU), Holiday Inn, I-64 West End, *Richmond.* 6 hrs. Cat. 1. Fee: physicians, $85; health care professionals, $60; visiting housestaff, $15. Kathy E. Johnson, Box 48, MCV Station, Richmond VA 23298, (804) 786-0494.

September 20
1st Symposium on Sarcoidosis: The Great Imitator (University of North Carolina School of Medicine), *Chapel Hill, North Carolina.* 8 hrs. Cat. I. Office Continuing Education, UNC School of Medicine, Chapel Hill NC 27514.

September 25-27
Granulomatous Disease of the Lung (Virginia Lung Association), Sheraton Beach Inn, *Virginia Beach.* 9 hrs. Cat. I. Fee, $50. Taylor R. Copping, PO Box 7065, Richmond VA 23221, (804) 335-3295.

September 26-27
Behavioral Aspects of Adolescent Health Care (University of Maryland School of Medicine), Sheraton Inn, *Ocean City, Maryland.* Betty Saar, Room 300, 10 S. Pine St., Baltimore MD 21201, (301) 528-3956.

Hurry! hurry! hurry! to make your hotel reservations for the 133rd Annual Meeting of The Medical Society of Virginia, Williamsburg Conference Center, November 6-9, 1980.

A pool of rooms is being held by Colonial Williamsburg's hotel division for Medical Society of Virginia members and friends who plan to attend the 1980 Annual Meeting. Here for your convenience is a reservation blank. Stake out your accommodations NOW!

- Reservations should be made no later than October 6, 1980. All unreserved rooms are subject to release on that date.
- Each reservation must be accompanied by a $35 deposit per room.
- Hotels will make every effort to take care of early arrivals, but some rooms may not be available until mid-afternoon due to varying checkout hours.

- For the first time, the scientific program will offer 10 Category I credits (the total annual Category I requirement) in a new 3-day format occurring Friday afternoon, Saturday morning and Sunday morning (November 7, 8 and 9).
- The exhibit hall will be open all day Friday, November 7, and Saturday morning, November 8.
- Complete program will be bound into VIRGINIA MEDICAL's October issue.

Make check payable to Colonial Williamsburg Foundation.
Mail reservation to Group Reservations Manager, Drawer B, Williamsburg, Virginia 23185.

ANNUAL MEETING OF THE MEDICAL SOCIETY OF VIRGINIA, NOVEMBER 6-9, 1980

Colonial Houses:	**Single____$60.00**	**Double____$60.00**
Motor House:	**Single____$45.00**	**Double____$45.00**
Providence Hall:	**Single____$87.00**	**Double____$87.00**
Williamsburg Inn	**Single____$77.00**	**Double____$77.00**
Williamsburg Lodge	**Headquarters for members of House of Delegates**	

I shall arrive in Williamsburg _____ and depart _____

Check in the amount of $_____ attached ($35 deposit per room required)

Name _____
(print or type)

Address: _____

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Telephone _____ **Date Mailed** _____

LETTERS TO THE EDITOR

Wants to Circulate Transplant Article

Excellent article on transplant gifts in the May issue (also Mid-Tidewater past presidents). Are reprints of the article listing Virginia's donor agencies[1] available? If so, I would like a few.

My wife and I have donated our bodies, and so have a couple of our children. I believe more would do the same if there were publicity in the local newspapers, church bulletins, etc.

Norman R. Tingle, MD

Peirce-Tingle Clinic
Lively VA 22507

1. AG: Virginia's donor agencies: what they do, where they are. Va Med 107:358-359, 1980

Editors' Note: Reprints of the donor agency listing were not ordered, but the Editors will be happy to do so on sufficient demand. Tearsheets are available.

A Virginian Helped Make Transplant History

In the May 1980 issue of VIRGINIA MEDICAL, the article with the photograph of the first successful transplantation of a vital organ from one human to another in December 1954 at Peter Bent Brigham Hospital, Boston, was very interesting.

Perhaps some readers might like to know that a native Virginian, Dr. J. Hartwell Harrison, who received his MD degree at the University of Virginia in 1932, is in this photograph. He was one of the investigators who were involved in all the preliminary work. He is the Elliott Carr Cutler Professor of Surgery Emeritus (Department of Urology), Peter Bent Brigham Hospital and Harvard Medical School, and is now retired.

A recent *Harvard Medical Alumni Bulletin* carried an account of the 25th reunion in Boston last year of the members of this surgical team and others involved in the investigation.

Leslie M. Bell, MD

126 North Braddock Street
Winchester VA 22601

1. AG: This transplant made medical history. Va Med 107:386, 1980

Recommends New Book On Economic Controls

The purpose of this letter is to call the physician's attention to a wonderful new book presently receiving excellent reviews within the most influential circles of conservative economic opinion: *Forty Centuries of Wage and Price Controls* by Robert L. Schuettinger and Eamonn Butler (Thornwood, New York: Caroline House Publishers). This compact work examines over 100 attempts of various governments in 30 different nations to control their economies by legislating and enforcing "just" wages and prices. As the authors so clearly document, this tendency of governments to try and mask their own mistakes by blaming economic hardship on the greed and wickedness of their citizens is nothing new. It has continually been practiced since the very earliest governments, for which we have recorded history.

I recommend this book to physicians, for our profession has endured government interference on a scale that few other industries have felt. It is apparent

that many of us have watched this disruption somewhat passively, and I believe that is largely because we have never had such a definitive base from which to protest, as this beautifully written and fun-to-read book provides. Imagine the practice of medicine holding to methods of treatment long since proven harmful! Of course it is inconceivable, but, as *Forty Centuries of Wage and Price Controls* proves, our bureaucrats and some of our politicians today are no more fit to govern than would the internist be to practice who applied leeches to the neck for a headache.

It seems only appropriate that this lively and easily digested book would have arrived at the time it has. It can only serve to bolster the return to common sense and economic freedom that so many of us hope to realize after the November elections.

Jason E. McClellan, MD

321 Main Street
Newport News VA 23601

New One-on-One Mandate For Prescriptions

Due to passage of legislation at the 1980 session of the Virginia General Assembly it will be required by law, beginning this month of July, that only *one* prescription be written on *one* prescription blank.

For several years pharmacy and medical groups together have sought ways to curb the use of multiscript/polyscript types of blanks. It has been demonstrated that use of such blanks are a detriment to good record keeping and may result in confusion and possibility of error leading to patient harm.

It is suggested that prescribers now having a supply of multiscript/polyscript blanks cross out all but one space when writing the one prescription per blank.

The Virginia Pharmaceutical Association Professional Affairs Committee appreciates the support of the medical community for passage of the one-on-one bill and for the communication necessary to insure compliance.

Al Schalow, RPh

Chairman, Professional Affairs Committee
Virginia Pharmaceutical Association

Records Carried by Patients Solve a Problem

The item, "Health Department Clinics", in the minutes of Council in the April issue[1] prompts me to offer this answer to the problem of how to get a patient's records for followup after hours, when the health clinics are closed.

In 1972-1973 the Bureau of Maternal Health conceived and developed a new maternity record precisely to insure continuity of information for the patient's care from first prenatal to final postpartum visit and discharge. The "hospital copy" of this record could be carried by the patient at all times and entries made thereon whenever the patient received medical attention, thus assuring complete information to any physician or other medical attendant.

This record could be easily adapted to other programs.

The Department of Obstetrics and Gynecology, Medical College of Virginia, Dr. Leo J. Dunn, professor and chairman, cooperated fully with us in all phases of preparation and implementation.

Before my retirement, August 31, 1973, the use of this record had started in a few of our clinics, at the Medical College of Virginia, and in some physicians' offices.

James J. Dunne, MD

6376 South Elm Lane
Lantana, Florida 23346

1. RIH: Minutes of Council. Va Med 107:305-308, 1980

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Frank H. Moretz, M.D.
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Benjamin N. Jones, M.D.
John S. Jeremiah, M.D.
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William C. Crow, Jr., M.D.
Preston H. Edwards, M.D.
Samuel N. Smith, M.D.
Howard M. Lebow, M.D.
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John F. Daugherty, M.D.

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William R. Whitman, Jr., M.D. Emeritus
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George R. Shumate, M.D.

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Bertram Spetzler, M.D.

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Warren L. Moorman, M.D.
Robert F. Roth, M.D.

Radiology and Nuclear Medicine
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Clyde F. Lloyd, M.D.
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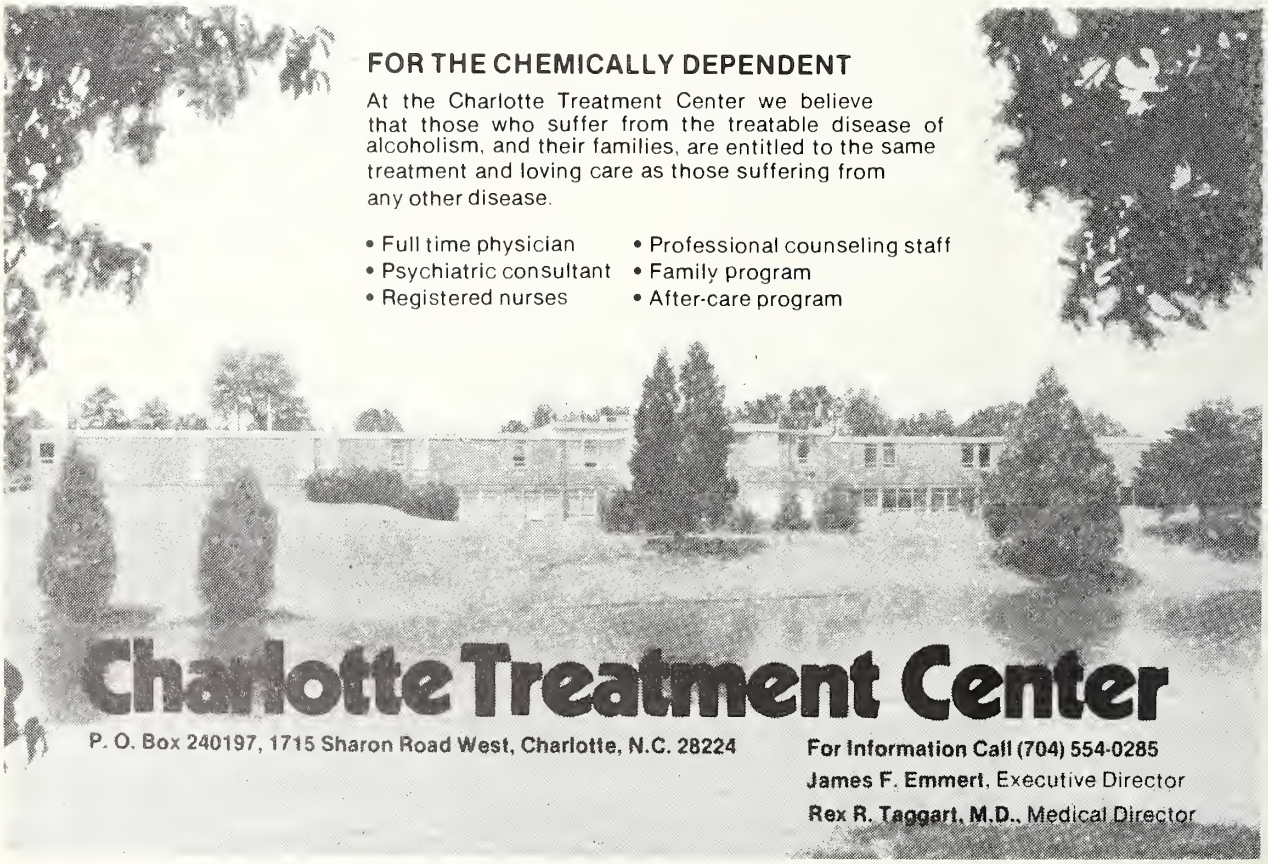
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Satellite Clinics in Fincastle, Poages Mill, West Salem, and Peters Creek Road. For information: Darrell D. Whitt, Administrator.
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Charlotte Treatment Center

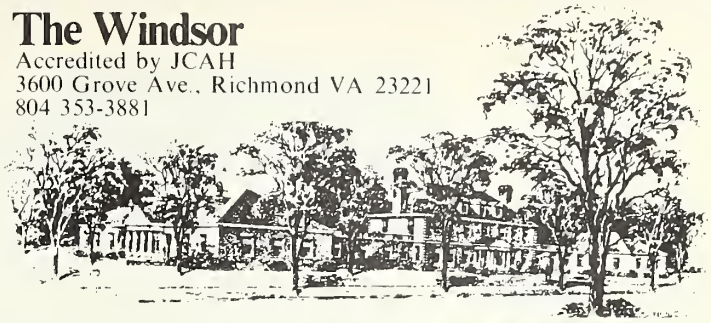
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THE HARD PART COMES AFTER THE DETOX

Our nationally recognized Alcoholism Treatment Program at The Arlington Hospital is fully accredited by the Joint Commission on Accreditation of Hospitals. We are successful because we offer a *total treatment program,* including:

- 21-day inpatient treatment including detoxification
- Separate adolescent program and facilities for patients ages 13-18
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- 15-week aftercare group treatment
- One-year aftercare follow-up

For an informative brochure and rate information, call or write:

Alcoholism Treatment Program
The Arlington Hospital
1701 North George Mason Drive
Arlington, Virginia 22205
703/558-6536

Charles G. Smith, M.D.
Medical Director

Morris A. Hill, M.H.S.
Program Director

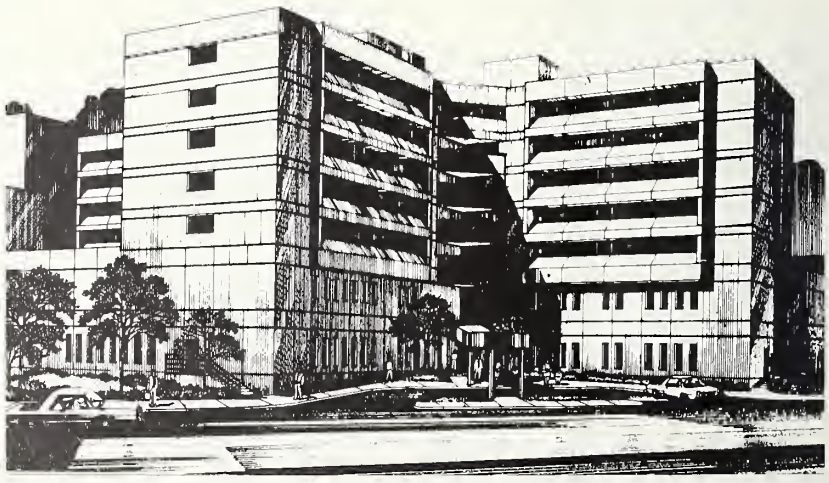
The Arlington Hospital is a 350-bed nonprofit institution, extending a commitment in community health care.

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THE AUXILIARY

While Auxilians Meet, Spouses Learn

When the MSV Auxiliary held its mid-year board meeting early this spring at the Tides Inn in Irvington, physicians who accompanied their wives were offered a learning program worked up by the Auxiliary's president, Mrs. Charles G. Smith, McLean.

It was the first time such a program had been incorporated into an Auxiliary meeting, and Medical Society of Virginia President George M. Nipe, MD, gave it his seal of approval by launching the session with introductory greetings.

"When your patient drinks too much, what can you do?", was the program's theme. Dr. Charles G. Smith, medical director of the Alcoholism Treatment Unit at Arlington Hospital, was the linch-pin of his wife's innovation, speaking on "The Subtle Signs of Alcoholism". These are the clues, he related, that may lead the primary care physician to suspect the presence of alcoholism in a patient:

Appearance deteriorates.

Liver enlargement.

Cancels appointments frequently.

Ocular signs (inflammation, arcus senilis).

Home upkeep deteriorates.

Objects to office visits (wants tranquilizer prescriptions by phone).

Late paying his bill (the ABC gets his money).

Increased accident rate (bruises, broken bones from falling).

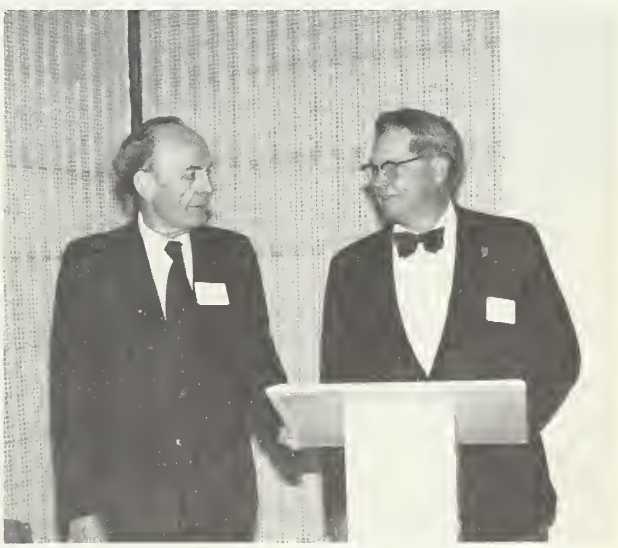
Sick leave used up early (high rate of Monday "flu").

Marital difficulties.

In another part of the program, Dr. Smith described the detoxification process in a hospital setting and the treatment regimen following. All drugs are withdrawn after five days, he said, and the patient is then educated, through lectures, tapes and group therapy, to the seriousness of his disease and what he needs to do to control it.

Alcoholism as a chronic physiological disease process was postulated in 1968 by Dr. James Milam. This concept was discussed by Morris Hill, program director of the Arlington facility, who also emphasized the importance of leading the patient to self-diagnose his condition. The third speaker was Father Joseph Martin, Jesuit priest and nationally known lecturer on alcoholism, who showed a film to illustrate his conviction that "alcoholics can and do recover".

Eighteen physicians registered for the three-hour session, and at least one experienced an immediate good result: After attending the program, this doctor reported in followup, he had been able to persuade one of his patients, a doctor's widow, to enter treatment for her alcoholism.



Launching an Auxiliary first: Dr. Smith (left) and Dr. Nipe.

WHAT KIND OF PERSON BECOMES A NAVY PHYSICIAN? DOCTORS JUST LIKE YOU.

Navy doctors start their medical careers just like you. As civilians, they come from all parts of the country with wide-ranging medical experience. From Park Avenue to Main Street. From new interns to 20-year doctors. In truth, the Navy doctor is you.

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Quinamm™

AVAILABLE ONLY ON PRESCRIPTION

Brief Summary

INDICATIONS: For the prevention and treatment of nocturnal recumbency leg muscle cramps, including those associated with arthritis, diabetes, varicose veins, thrombophlebitis, arteriosclerosis, and static foot deformities.

CONTRAINDICATIONS: Because of the quinine content, Quinamm is contraindicated in women of childbearing potential, in pregnancy, in patients with known quinine sensitivity, and in patients with glucose-6-phosphate dehydrogenase deficiency. Hemolysis (with the potential for hemolytic anemia) has been associated with a G-6-PD deficiency in patients taking quinine.

PRECAUTIONS: Thrombocytopenic purpura may follow the administration of quinine in highly sensitive patients. Recovery will follow withdrawal of the medication.
Cinchona alkaloids, including quinine, have the potential to depress the hepatic enzyme system that synthesizes the vitamin K-dependent factors. The resulting hypoprothrombinemic effect may enhance the action of warfarin and other oral anticoagulants.

ADVERSE REACTIONS: Aminophylline may produce intestinal cramps in some instances, and quinine may produce symptoms of cinchonism, such as tinnitus, dizziness, and gastrointestinal disturbance. If ringing in the ears, deafness, skin rash, or visual disturbances occur, the drug should be discontinued.

DOSAGE AND ADMINISTRATION:
1 tablet upon retiring. When necessary, 1 additional tablet may be taken following the evening meal.

Product Information as of September, 1977

U.S. Patent 2,985,558

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8 3305 (Y371A)



Quinamm™

each tablet contains quinine sulfate 260 mg., aminophylline 195 mg.

specific therapy for painful night leg cramps

Nocturnal recumbency leg muscle cramping is frequently an unwelcome bedfellow for many patients—especially those with arthritis, diabetes or peripheral vascular disease... consider Quinamm... simple, convenient dosage—usually just one tablet at bedtime... can provide restful, welcome sleep without night leg cramps.

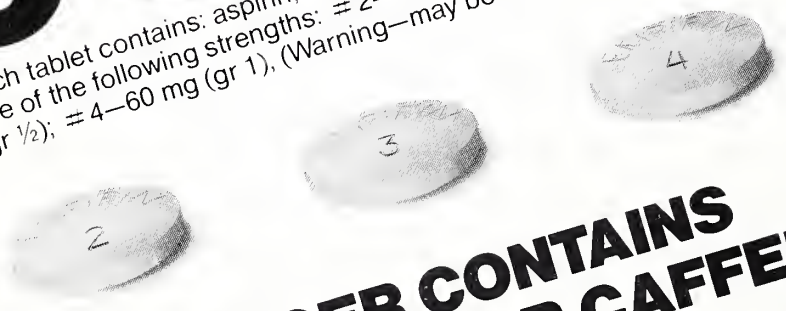
See opposite page for prescribing information.

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Each tablet contains: aspirin, 325 mg; plus codeine phosphate in one of the following strengths: #2—15 mg (gr 1/4); #3—30 mg (gr 1/2); #4—60 mg (gr 1), (Warning—may be habit-forming)



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VIRGINIA MEDICAL

The Monthly Publication of The Medical Society of Virginia

Who

VIRGINIA MEDICAL is the official journal of The Medical Society of Virginia. It is edited for Virginia doctors of medicine: practicing family physicians, specialists, researchers, and medical school faculty. Guaranteed **circulation:** 6,900 as of July, 1980.

What

VIRGINIA MEDICAL'S pages feature previously unpublished scientific articles (clinical and investigative work in medicine), illustrated reportage of Society activities and personalities, and articles exploring the history of Virginia medicine. Emphatic treatment is given articles dealing with current issues in politics, the legislature and the socio-economic area as they relate to medicine. The editorial columns present the opinions of physicians and other writers on subjects of choice. Departments include letters, calendar of meetings, obituary, and a "Who's Who" of members' accomplishments.

When

VIRGINIA MEDICAL is published 12 times a year. It is issued in the first week of each month. **Reservation date:** 1st of the preceding month. **Closing date:** 5th of the preceding month.

Where

VIRGINIA MEDICAL ads are clustered at the book's opening, interspersed through the text pages, and clustered again immediately preceding the editorial columns at the rear of the book. Ads are rotated each month.

How

An **agency commission** of 15% is given to recognized firms.

Mail **contracts and insertion orders** to the Managing Editor, VIRGINIA MEDICAL, 4205 Dover Road, Richmond VA 23221, 804 353-2721.

National representative for VIRGINIA MEDICAL is the State Medical Journal Advertising Bureau, 711 South Boulevard, Oak Park IL 60302, (312) 383-8800.

Rates

Effective July 1980

All advertising is subject to acceptance by the Editorial Board, comprised of nine practicing physicians, and the Editor, a physician.

Frequency	One page	½ page	¼ page
1 time	$180	$105	$55
3	170	95	50
6	160	90	47
12	150	85	45

Cost per thousand based on 12-time B&W rate: $21.72.

Earned rates based on frequency within a 12-month period for all sizes.

Standard colors (AAAA red, yellow, blue and green) and **matched colors:** $300. **Four-color** (offset materials required): $650.

Inserts furnished by the advertiser: single-leaf (2-page), two times the earned rate; double leaf (4-page), four times the earned rate. Stock weight and special folds subject to publisher approval. Copy should be at least ½ inch from gutter.

Rates for **covers** and **special positions** on request.

VIRGINIA MEDICAL **classified ads:** $10 for 50 words or less; 10¢ per word in excess of 50. Classified display (boxed): $20 per 50 words.

Mechanical

Ad page unit	Width	Depth
Full page	6⅝	× 9
½ horizontal	6⅝	× 4⅜
½ vertical	3⅛	× 9
¼ horizontal	6⅝	× 2⅛
¼ vertical	3⅛	× 4⅜

Trim size: 8¼ × 11. **Bleed** page plate size: 8⅜ × 11¼. **Print** method: web offset. **Binding:** saddle stitch and perfect bind. **Halftone** screens: 133-line.

Form **1040** Department of the Treasury—Internal Revenue Service **U.S. Individual Income Tax Return** **1979**

For Privacy Act Notice, see page 3 of Instructions | For the year January 1–December 31, 1979, or other tax year beginning , 1979, ending , 19

Use IRS label. Otherwise, please print or type.

Your first name and initial (if joint return, also give spouse's name and initial) | Last name | Your social security number

Present home address (Number and

City, town or post office, State and Z

Spouse's social security no.

Spouse's occupation ▶

Presidential Election Campaign Fund

Filing Status

Check only one box.

4 Head of household. (See page 7 of Instructions.) If qualifying person is your unmarried child, enter child's

page 7 of Instructions.)

Exemptions

Always check the box labeled Yourself. Check other boxes if they apply.

b Spouse | 65 or over | Blind | Enter number of boxes checked on 6a and b ▶

c First names of your dependent children who lived with you ▶ | Enter number of children listed ▶

d Other dependents: (1) Name	(2) Relationship	(3) Number of months lived in your home	(4) Did dependent have income of $1,000 or more?	(5) Did you provide more than one-half of dependent's support?

Enter number of other dependents ▶

Add numbers entered in boxes above ▶

Income

Please attach Copy B of your Forms W–2 here.

If you do not have a W–2, see page 5 of Instructions.

7	Total		
8	Wages, salaries, tips, etc.	8	
9	Interest income (attach Schedule B if over $400)	9	
10a	Dividends		
c	Subtract line 10b from line 10a	10c	
11	State and local income tax refunds (does not apply unless refund is for	11	
12	Alimony received	12	
13	Business income or (loss) (attach Schedule C)	13	
14	Capital gain or (loss) (attach Schedule D)	14	
15	Taxable part of capital gain distributions not reported on Schedule D (see page 10 of Instructions)	15	
16	Supplemental gains or (losses) (attach Form 4797)	16	
17	Fully taxable pensions and annuities not reported on Schedule E	17	
18	Pensions, annuities, rents, royalties, partnerships, estates or trusts, etc. (attach Schedule E)	18	
19	Farm income or (loss) (attach Schedule F)	19	
20a	Unemployment compensation. Total amount received		
b	Taxable part, if any, from worksheet on page 10 of Instructions	20b	
21	Other income (state nature and source—see page of Instructions) ▶	21	
22	Total income. Add amounts in column for lines 8 through 21 ▶	22	

Please attach check or money order here.

Adjustments to Income

23	Moving expense (attach Form 3903 or 3903F)	23	
24	Employee business expenses (attach Form 2106)	24	
25	Payments to an IRA (see page 11 of Instructions)	25	
26	Payments to a Keogh (H.R. 10) plan	26	
27	Interest penalty on early withdrawal of savings	27	
28	Alimony paid (see page 11 of Instructions)	28	
29	Disability income exclusion (attach Form 2440)	29	
30	Total adjustments. Add lines 23 through 29 ▶	30	

Adjusted Gross Income

31 Adjusted gross income. Subtract line 30 from line 22. If this line is less than $10,000, see page 2 of Instructions. If you want IRS to figure your tax, see page 4

44-0607856 PRINTED IN U.S.A. Form **1040** (1979)

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In clinical trials, patients with bacterial bronchitis due to susceptible strains of Streptococcus pneumoniae, H. influenzae, S. pyogenes (group A beta-hemolytic streptococci), or multiple organisms achieved a satisfactory clinical response with Ceclor.[7]

Ceclor®
cefaclor
Pulvules®, 250 and 500 mg

Brief Summary.
Consult the package literature for prescribing information.

Indications and Usage: Ceclor® (cefaclor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms:

Lower respiratory infections, including pneumonia caused by *Streptococcus pneumoniae (Diplococcus pneumoniae)*, *Haemophilus influenzae*, and *S. pyogenes* (group A beta-hemolytic streptococci)

Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Ceclor.

Contraindication: Ceclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics.

Warnings: IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY. THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS TO BOTH DRUG CLASSES (INCLUDING ANAPHYLAXIS AFTER PARENTERAL USE).

Antibiotics, including Ceclor, should be administered cautiously to any patient who has demonstrated some form of allergy, particularly to drugs.

Precautions: If an allergic reaction to cefaclor occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e.g., pressor amines, antihistamines, or corticosteroids.

Prolonged use of cefaclor may result in the overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Positive direct Coombs tests have been reported during treatment with the cephalosporin antibiotics. In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs test may be due to the drug.

Ceclor should be administered with caution in the presence of markedly impaired renal function. Under such a condition, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended.

Usage in Pregnancy—Although no teratogenic or antifertility effects were seen in reproduction studies in mice and rats receiving up to 12 times the maximum human dose or in ferrets given three times the maximum human dose, the safety of this drug for use in human pregnancy has not been established. The benefits of the drug in pregnant women should be weighed against a possible risk to the fetus.

Usage in Infancy—Safety of this product for use in infants less than one month of age has not been established.

Adverse Reactions: In clinical studies in 1493 patients, adverse effects considered related to cefaclor therapy were uncommon and are listed below.

Gastrointestinal symptoms occurred in about 2.5 percent of patients and included diarrhea (1 in 70) and nausea and vomiting (1 in 90).

Hypersensitivity reactions were reported in about 1.5 percent of patients and included morbilliform eruptions (1 in 100). Pruritus, urticaria, and positive Coombs tests each occurred in less than 1 in 200 patients.

Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients).

Causal Relationship Uncertain—Transitory abnormalities in clinical laboratory tests results have been reported. Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician.

Hepatic—Slight elevations in SGDT, SGPT, or alkaline phosphatase values (1 in 40).

Hematopoietic—Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40).

Renal—Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200). [070379R]

* Many authorities attribute acute infectious exacerbation of chronic bronchitis to either *S. pneumoniae* or *H. influenzae*.[8]

Note: Ceclor® (cefaclor) is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients.

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information.

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Additional information available to the profession on request from Eli Lilly and Company, Indianapolis, Indiana 46285.

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VIRGINIA MEDICAL.
JULY 1980

Sleep Apnea Syndrome: Clinical Features and Treatment

R. Paul Fairman, MD, James A. L. Mathers, Jr., MD, Larry A. Isrow, MD, Robert A. Fasoli, MD, and Frederick L. Glauser, MD, *Richmond, Virginia*

The sleep apnea syndrome is a relatively unappreciated but by no means rare cause of nocturnal hypercapnia and hypoxemia that sometimes persist into the waking hours. The authors describe their experience in diagnosing and treating this disease in seven patients who were characteristically overweight, tended to snore, and had daytime somnolence, intellectual deterioration and elevated hematocrits.

CHRONIC obstructive pulmonary disease is the most common cause of hypoxemia and carbon dioxide retention (hypercapnia). During the last several years, other causes of these blood gas abnormalities (central hypoventilation, severe metabolic alkalosis, and upper airway obstruction) have received attention. Recently, another cause of persistant hypoxemia and hypercapnia has been described, the sleep apnea syndrome[1]. This disorder is not rare. Within six months, seven patients suffering from this syndrome were referred to the Medical College of Virginia Pulmonary-Neurology Sleep Center for study.

From the Department of Medicine, Pulmonary Division, and the Department of Neurology, Medical College of Virginia/Virginia Commonwealth University. Address correspondence to Dr. Fairman at Box 50, MCV station, Richmond VA 23298.

Submitted 8-9-79.

Since significant cardiopulmonary impairment may result, and specific therapy is available, diagnosis should be made and treatment started as early as possible. This review will deal with the physiologic, clinical, diagnostic, and therapeutic aspects of the sleep apnea syndrome.

Case History

A 56-year-old man was referred to the Medical College of Virginia because of reduction in exercise tolerance and persistant lower extremity edema. Left ventricular failure had been diagnosed several years prior to referral, but treatment with digoxin and diuretics had been unsuccessful. Questioning revealed that the patient frequently fell asleep during the day. He often had to be awakened to finish a sentence or to complete a meal. He was unable to drive a car. His excessive sleepiness had recently forced his retire-

ment from a local factory. At bedtime, he fell asleep easily. During the night, his wife was awakened frequently by his loud snoring and wild flailing movements. These symptoms had started over ten years before but had worsened progressively in the past 18 months. His weight had increased 15-20 lbs during those months.

Physical examination revealed a lethargic patient who answered questions very slowly. He was 5′″ tall and weighed 266 lbs. His blood pressure was 160/100mmHg, pulse 90 per minute and respiratory rate 16 per minute. He spoke with a thick, heavy voice. His facial features were coarse. There was no abnormality of the oropharynx. The thyroid was not palpable and there was no jugular venous distention. Chest examination was normal. The liver was percussed at 13 cm but the edge was not palpable. Three plus pitting edema of the lower extremities was present. Neurologic examination was normal with the exception of the rather slow mentation. The hemoglobin was 16 grams/dl; the hematocrit 47%. SMA-6/60 and thyroid functions were normal. A chest radiograph showed elevation of the hemidiaphragms. EKG was normal. Spirometry and lung volume determinatiosn were within normal limits and arterial blood gases were PaO_2 52 torr, $PaCO_2$ 46 torr, and pH 7.36. Sleep evaluation was performed with simultaneous monitoring of EEG, EKG, thoracic motion and air flow. Typical obstructive eapneas of 15-45 seconds occurred 20 or more times per hour (Fig. 1). There were no significant EKG abnormalities during the study.

Because of the severity of the patient's symptoms, a tracheostomy was performed to relieve the nocturnal upper airway obstruction. Within 48 hours, the patient's daytime hypersomnolence had ceased. All medications were discontinued. The patient's edema disappeared in two weeks. Within three weeks, the patient returned to his job. Six months later, he continued to feel well and had lost 40 lbs.

Physiology

Apnea, the cessation of air flow for 15 seconds or more, is termed central when there is an absence of respiratory movement and obstructive when accompanied by persistant ventilatory efforts. The former type is due to an abnormality in central nervous system ventilatory control, while the latter is due to lax pharyngeal musculature bulging into the posterior pharyngeal space obstructing air flow. Mixed apneas may occur. They begin as central apneas followed by

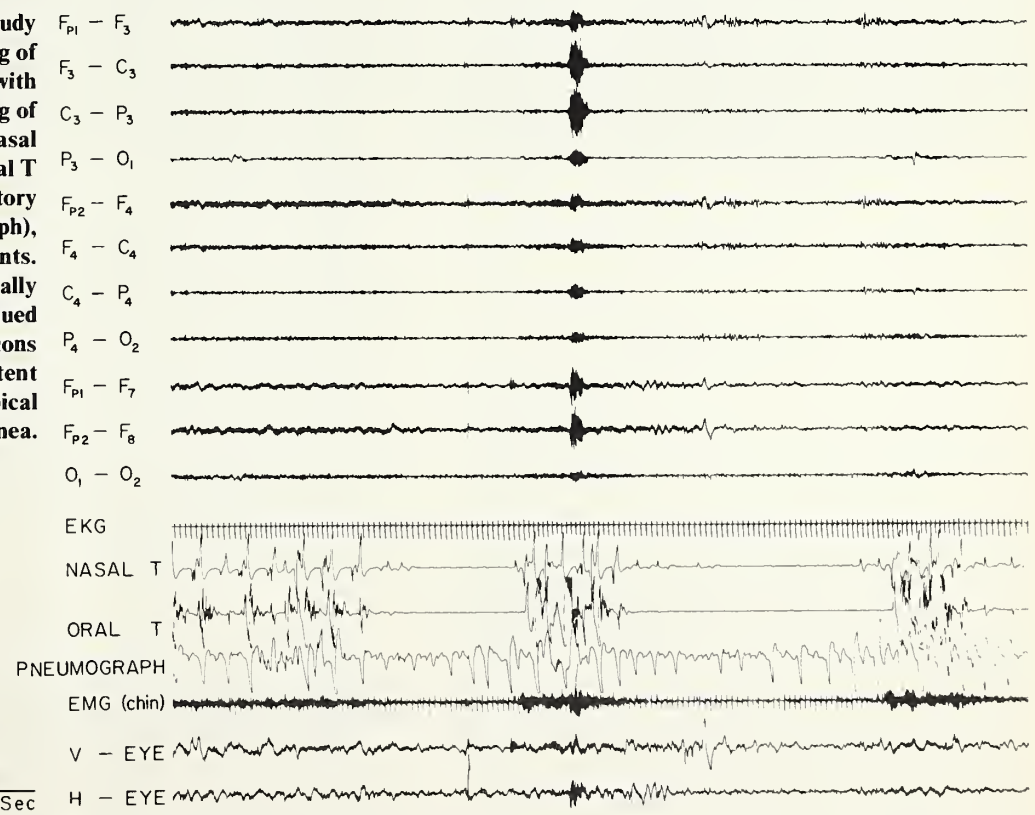


Figure 1. Sleep study polygraphic recording of obstructive apnea, with simultaneous recording of EEG, heart (EKG), nasal and oral air flow (nasal T and oral T), respiratory effort (pneumograph), EMG and eye movements. Air flow periodically ceases but continued pneumograph deflections indicate persistent respiratory effort typical of obstructive apnea.

Table 1. Characteristics of Seven Patients with Sleep Apnea Syndrome.

Patient	Age, Yrs.	Weight, Lbs.	% Pred. Wt.	Snoring	Daytime Somnalence	Impotence	Intellectual Deterioration	Hypertension	Edema	Cor Pulmonale	Apnea Type*	Hematocrit, %	PaO_2, torr	$PaCO_2$, torr	VC, % Pred.	FEV_1 L/sec.	FVC/FEV_1 %
1	36	344	208	+	+	+	+	−	+	+	o	60	38	56	70	3.0	83
2	39	250	151	+	+	+	−	+	±	−	m	46	57	44	70	2.7	78
3	58	312	182	+	+	+	−	−	+	+	o	58	60	53	50	1.8	75
4	62	280	175	+	+	−	+	+	+	−	o	59	67	41	71	2.2	68
5	64	260	154	+	+	−	+	+	+	−	o	42	78	34	70	2.2	74
6	56	266	156	+	+	+	+	+	+	−	o	47	52	46	86	3.0	75
7	28	271	169	+	±	−	−	+	−	−	o	55	86	34	79	3.5	86

* o = obstructive apnea + = present m = mixed apnea − = absent

increasing ventilatory efforts but a continued absence of air flow. The typical sleep apnea patient may experience from 200-500 apneic episodes per night separated by short periods of normal respiration. During these episodes, arterial oxygen saturation falls and carbon dioxide tensions rise with resultant acidosis. When air flow resumes, there is partial correction of these abnormalities, but, given the repetitive nature of the episodes, hypoxemia, hypercarbia, and acidosis may be present throughout the night. These blood gas changes lead to acute pulmonary and systemic hypertension and cardiac arrhythmias, especially sinus arrhythmias with extreme bradycardia (less than 30 beats per minute). When awake, patients breathe normally, and their arterial blood gas values, pulmonary and systemic blood pressure and cardiac rhythm all return to normal. Late in the course, the nocturnal physiologic derangements may persist into the waking hours with resultant hypercapnia, hypoxemia, cor pulmonale and right ventricular failure.

Clinical Features

Several characteristic symptom complexes may suggest the diagnosis of a sleep apnea syndrome prior to the development of major cardiopulmonary pathophysiology. Snoring and excessive daytime sleepiness are the most common, but varying number of patients (or their families) may complain of depression, anxiety, intellectual impairment, impotence, sleep walking or morning headache. Most patients are men, 30 to 50 years of age, and many are overweight.

Patients with *obstructive* apneas usually have long histories of loud snoring, often punctuated by periodic silences terminated with inspiratory snorting. Excessive daytime sleepiness occurs. Patients fall asleep repeatedly, often in embarrassing or dangerous situations. Normal attention span and reasoning capacities are frequently impaired. The chronicity of this syndrome and its slowly progressive symptoms often lead to divorce and/or loss of employment before the nature and reversibility of the problem is recognized.

Patients with *central* apneas are usually not bothered by excessive daytime sleepiness; most complain of insomnia and interrupted sleep due to a feeling as if they "had to wake up to breathe". Once awake, they fall asleep easily, only to repeat these nocturnal cycles. Most of these patients do not snore, although inspiratory snorts terminating long quiet spells have been noted. As in patients with obstructive apnea, changes in personality and intellect are common; domestic and employment difficulties are frequent.

Patients with *mixed* apneas (combined central and obstructive) symptomatically resemble patients with obstructive apnea.

Early in the course of the syndrome, the physical examination and laboratory evaluation may be normal. Later, however, a spectrum of abnormal physical findings and laboratory data may be present. The physical findings may include obesity, systemic hypertension, peripheral edema, irregular cardiac rhythms and signs of pulmonary hypertension and right ventricular failure. Polycythemia, hypoxemia and hypercapnia may be present on laboratory evaluation. All patients in our series had some combination of these abnormalities.

Diagnosis

Although patient presentations may vary widely, certain clinical features are so characteristic that the diagnosis is almost certain before confirmatory testing. Thus an overweight, middle-aged male with systemic hypertension, a history of snoring and daytime sleepiness should be suspected of having obstructive

sleep apnea on clinical grounds alone. Definite diagnosis depends on the results of a sleep study which focuses on respiratory, cardiovascular, and EEG variables. Abdominal and thoracic respiratory movements are recorded with surface electrodes, strain guages or an esophageal balloon. Nasal and oral thermistors measure air flow. Electroencephalogram, electromyogram, electro-oculogram, and electrocardiogram are recorded. A typical tracing from the Medical College of Virginia Sleep Laboratory is shown in Figure 1. Studies are generally conducted for a 4-hour sleep period, but shorter recording sessions may be possible, since apneic episodes are frequent. Other tests used in the evaluation of these patients might include chest radiographs, EKG, spirometry, and measurement of the ventilatory response to carbon dioxide. Detailed examination of the upper airway and flow-volume loops are also useful. Their major function is the exclusion of other disease processes which might explain the patient's symptomatology, physical findings, and laboratory data.

Treatment

Treatment depends on the type of apnea, the severity of symptoms and the degree of cardiopulmonary dysfunction. Obese patients are encouraged to lose weight, since this often results in a remarkable amelioration of daytime somnolence and pulmonary hypertension as evidence by our patient #4 (Table 1) who lost 100 lbs and is now asymptomatic. Patients who have severe cardiopulmonary abnormalities, who are unable to lose weight or who are not overweight, need alternate treatments.

Management of patients with *obstructive* apnea depends on relief of the nocturnal upper airway obstruction. The results of tracheostomy are dramatic; daytime somnolence rapidly disappears and arterial blood gas values quickly return to normal. Personality changes and pulmonary and systemic hypertension resolve more slowly, usually over several months. Because the tracheostomy tube can be occluded during the daytime, normal conversation is a reality. Patients with *mixed* apneas may also obtain relief from tracheostomy.

Patients with central apneas have been treated with varying degrees of success with aminophylline, medroxyprogesterone, and tricyclic antidepressants (imipramine, protriptyline), all of which are purported to be central respiratory stimulants[2-4]. A minority of patients may require electronic diaphragmatic pacing via the phrenic nerve.

Treatment for all of the apnea syndromes is still investigational and will depend on further experience.

Future Development

In the past 20 years, the pathophysiology, symptomatology, and natural history of the sleep apnea syndromes have been defined, but many questions remain unanswered. Since women are so rarely affected, the role of estrogens and other female hormones in the pathogenesis of these syndromes is being investigated. The prevalence of these syndromes is also unknown but they should be suspected in patients who snore, are obese, or have systemic hypertension. Multiple family members may have histories compatible with sleep apnea syndrome. Sleep apnea and sudden infant death syndrome may be related. Nocturnal hypoventilation without apnea may cause cardiopulmonary dysfunction; its relation to sleep apnea is unknown. Sleep disturbances (apnea or hypoventilation) in some patients with chronic obstructive pulmonary disease may contribute to their cardiopulmonary impairment and morbidity[5]. Specific measures to ameliorate the nocturnal dysfunction may improve their quality of life. Evaluation of patients suspected of sleep disorders and careful continued observation of them will add to our ability to recognize and treat patients with this syndrome.

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The Crucial Role of Fetal Age in Amniotic Fluid Interpretation

Paul E. Bibbins, Jr., MS, Preston L. Wilds, MD, Howard W. Jones, Jr., MD, and Jack M. Rary, PhD, *Norfolk, Virginia*

IN the early prenatal diagnosis of anencephaly and/or spina bifida, alpha-1-fetoprotein (AFP) determination has been found a useful test[1]. Clinical problems will arise with interpretation of AFP levels, and suggestions have been made to avoid such situations[2].

In the case described here, interpretation of AFP values in the amniotic fluid from a fetus with trisomy 18, hydranencephaly and spina bifida were compromised by a discrepancy in dating.

Materials and Methods

Amniotic fluid cells were cultured in Eagle's Minimum Essential Medium with Earle's salts, 20% fetal bovine serum, L-glutamine, antibiotic-antimycotic solution, and sodium bicarbonate at 37°C in an atmosphere of 5-10% carbon dioxide. After subculturing, the metaphase figures were collected for cytogenetic analysis. Quinacrine banding was obtained by a procedure modified after Caspersson.[3] Amniotic fluid AFP was measured by radioimmunoassay.

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Submitted 1-30-80.

Case Report

A 39-year-old female who had had four previous pregnancies, one spontaneous abortion and three living children, was seen at 21 weeks gestation by last menstrual period dating for genetic counseling and prenatal diagnosis because of advanced maternal age. Other than the one spontaneous abortion and one living son who exhibited a teratoma at the base of the skull but was otherwise normal, the family history was unremarkable. Ultrasonography[4] indicated a biparietal diameter of 4.2 cm, which was consistent with 18 weeks of pregnancy but not consistent with the last menstrual period dating history of 21 weeks. Amniotic fluid was obtained by means of transabdominal amniocentesis for cytogenetic analysis and AFP determination. The AFP level was 28,000 ng/ml, which was within normal limits for 18 weeks. The karyotype revealed a fetus with 47,XY,+18 (Edwards syndrome) chromosomal complement. The patient elected to have an abortion, and labor was induced by means of intraamniotic prostaglandin F2-alpha. The result was the delivery of a male fetus with trisomy 18, hydranencephaly and an open neural tube defect.

The fetus (Fig. 1) weighed 310 gm and measured 25 cm from crown to heel and 17 cm from crown to rump. Subcutaneous tissue exhibited edema and cyanosis. The lower back showed a spina bifida deformity (myelomeningocele). The feet and ankles, bilat-



Fig. 1. Posterior-lateral view of fetus with hydranencephaly, trisomy 18, and spina bifida.



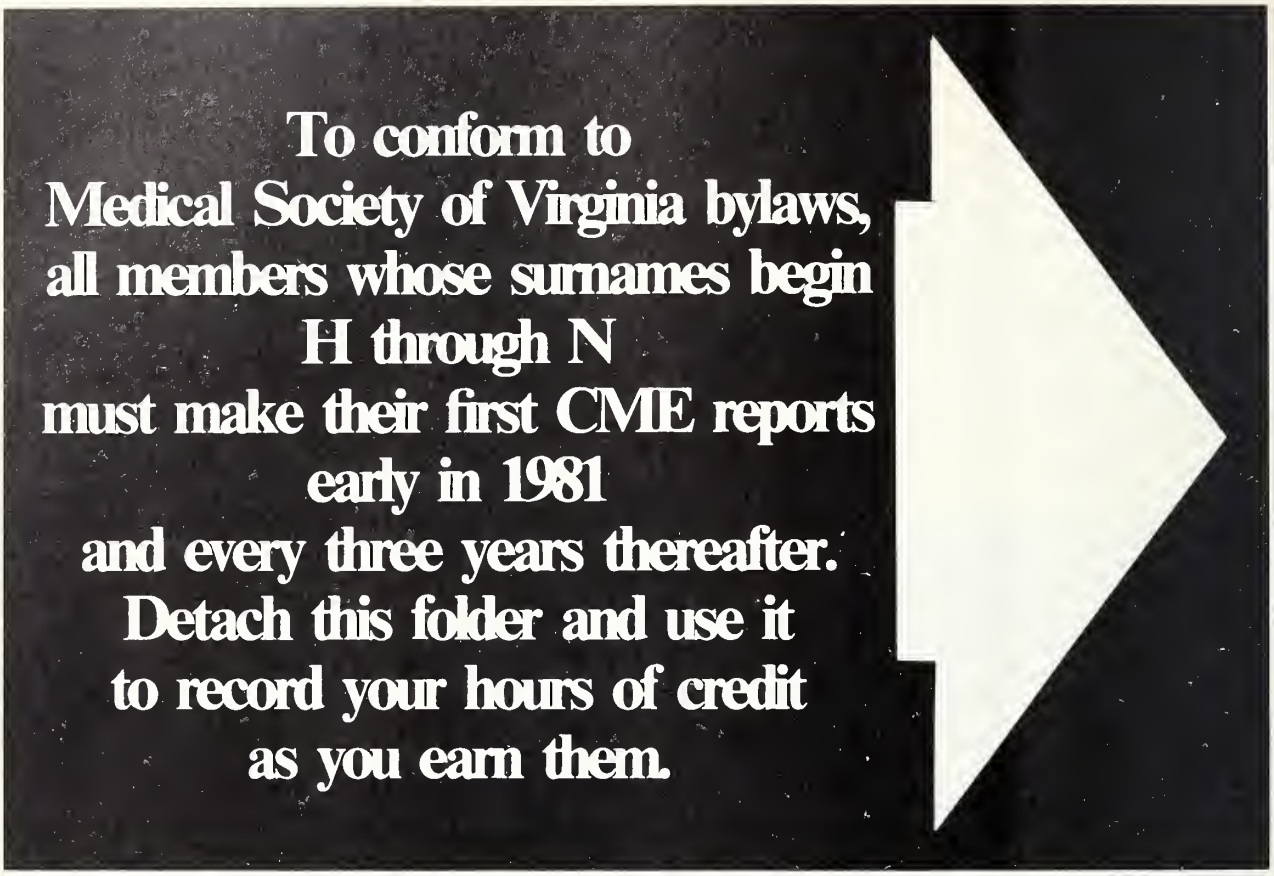
Fig. 2. Frontal view shows large protuberant tongue and hydranencephaly.

erally, exhibited club foot deformity. There was an attitudinal deformity of the right hand, first and fourth fingers overlapping the third finger with a clenched fist. The open calvarium showed an intact, well formed dural envelope, which contained serous fluid. Brain substance, including brain stem, were congenitally absent. The tongue was very large and protuberant (Fig. 2), and the palate was intact. The pleural viscerae were present in their normal anatomical relationship. There was no congenital anomaly of the heart or the great vessel. The liver was present in its normal relationship. There was a narrow rotational defect of the intestines, and the cecum was present in the right upper quadrant under the liver. The kidneys were present in their normal anatomical position. The adrenals were typical of an anencephalic fetus. Microscopic examination of the placental substance, fetal membranes, and umbilical cord sections were unremarkable.

Discussion

In this case, the mother was seen at 21 gestational weeks by last menstrual period dating. The sonogram, however, indicated a biparietal diameter consistent with only 18 weeks. The AFP was determined to be 28,000 ng/ml, which fell between the 50-99th percentile for 21 weeks. The pregnancy was terminated as a result of the trisomy 18 findings in the amniotic fluid cells; the hydranencephaly and spina bifida were detected only after the abortion.

This case should make the reader aware of the crucial importance of evaluating the last menstrual period as well as the biparietal diameter for more accurate dating of pregnancy. In previous cases in this



center, interpretation of the AFP levels in amniotic fluid for the diagnosis of neural tube defects had been based on the AFP levels appropriate only for gestational times as determined by ultrasonography alone. It is clear that in this case if the chromosomal anomaly had not been present, the AFP values that were plotted by dating the pregnancy with ultrasonography would have led to a false-negative report for spina bifida and hydranencephaly; an AFP level of 28,000 ng/ml at 18 weeks gestation by ultrasonography would have been considered within normal limits and a fetus with spina bifida and hydranencephaly would not have been suspected.

To avoid a possible false-negative interpretation of AFP values in the future, we are now plotting AFP values by gestational age as determined by ultrasonography and also by last menstrual period dating. If more than a 2-week difference between gestational age as determined by last menstrual period and ultrasonography occurs, then further steps are taken to determine the cause of the discrepancy. In future cases of similar nature, paired samples (maternal serum and amniotic fluid), and repeat samples should be tested for AFP levels.

The authors are grateful for the amniotic fluid AFP determination resulting from work done by Dr. H. Lorrin Lau, Johns Hopkins University, Baltimore.

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Acute Renal Failure in Children: Diagnosis and Treatment

James C. M. Chan, MD, *Richmond, Virginia*

The rate of survival in children with acute renal failure is 70%, with death due to sepsis, gastrointestinal bleeding, or fluid-electrolyte imbalances. The author outlines evaluation and treatment procedures conducive to survival.

ACUTE renal failure may be defined as a sudden loss of kidney function manifested by an inability to maintain the normal composition of body fluids and also, usually, by oliguria (urine output of less than 200 ml/m^2/day). A decrease in the renal excretion of urea, creatinine, potassium, acid and, usually, water leads to the characteristic picture of azotemia and subsequently increased serum creatinine, hyperkalemia, metabolic acidosis and fluid retention.[1]

Classification

In a report of 130 cases of acute renal failure in children, Broyer[2] lists the following general classifications as being associated with acute renal failure: where 80 of 130 patients suffered from glomerular and vascular lesions, hemolytic uremic syndrome represented 38%; glomerulonephritis, 12%; cortical necrosis, 8%; nephrotic syndrome, 3%; and renal vein thrombosis, 1%. Acute tubular necrosis accounted for 27% and mechanical obstruction for 9% of the cases.

Cortical necrosis and thrombotic microangiopathy occur more often in children below 2 years of age, whereas acute renal tubular necrosis tends to occur in the age group of 2 to 7 years, and glomerulonephropathies are more common at age 3 to 15 years.

The compounds which are known to cause acute renal failure, presumably on the basis of tubular damage, are listed in Table 1. Other causes of acute renal failure include nephropathy associated with hyperuricemia, obstructive uropathy associated with

Table 1. Substances Causing Acute Renal Failure.

1. Antibiotics:	Amphotericin, bacitracin, cephloridine, colistin, kanamycin, neomycin, penicillin methicillin, polymyxin, sulfonamide.
2. Organic Compounds:	Ethylene glycol, propleneglycol, diethyleneglycol, carbon tetrochloride, tetrachlorethylene, oxalic acid, creosote.
3. Metals:	Arsenic, bismuth, boron, mercury, cadmium.
4. Others:	Dextran, epsilon amino caproic acid, iodized products in radiology.

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Table 2. Work-Up for Acute Renal Failure.

Procedure	To evaluate
1. Plain film abdomen, intravenous pyelogram, retrograde pyelogram:	Mechanical obstruction
2. Hematological studies:	Thrombotic microangiopathy, intravascular coagulation
3. Urine and blood cultures:	Infection
4. Urinalysis, urine osmolality, urine to plasma urea ratio, urinary sodium and potassium:	Renal parenchymal injury from pre- or post-renal azotemia
5. Total protein, electrophoresis:	Nephrosis
6. ASO titer, serum complement concentration:	Acute glomerulonephritis
7. Uric acid:	Hyperuricemia
8. Transaminase, coagulation, hyperbilirubinemia:	Hepatic (infection, toxin)
9. Store frozen for toxicology:	Toxic nephropathies
10. Renal biopsy:	Histologic diagnosis

congenital lesions of acquired calculi, and the syndrome of renal failure following a surgical procedure, usually of a prolonged nature.

Evaluation

Presented with a child in acute renal failure, the physician must evaluate the situation in regard to etiology and attempt to institute appropriate diagnostic and therapeutic studies, while anticipating the multiple associated and iatrogenic complications. A schematic diagnostic outline is presented in Table 2. A 7-month-old infant who presents with a history of gastrointestinal syndrome followed by an apparent hemolytic crisis associated with acute oliguria would warrant an immediate hematologic evaluation rather than a pyelogram. Urine and blood cultures should be obtained when evaluating an infant with renal failure since acute infection may be responsible. (It is wise to freeze an aliquot of these specimens for later use if there is any possibility of a toxic ingestion.) When evaluating renal failure following surgery, urinalysis, urine osmolarity, creatinine clearance studies, and urinary Na/K ratios are some help. These ratios may also be useful in the differentiation of prerenal, renal parenchymal, and renal tubular disorders (Table 3).

Glomerular Pathology

Determination of serum immunoglobulin concentration alpha-2 macroglobulin, transferrin, properdin, C_3 and C_4, may be useful in diagnosing renal failure secondary to glomerular pathology. A depressed IgG, and transferrin and elevated haptoglobin and alpha-2 macroglobulin is a pattern associated with a nephrotic syndrome. A depressed properdin and C_3 would suggest acute poststreptococcal glomerulonephritis, whereas a normal properdin and lowered C_3 would suggest membranoproliferative glomerulonephritis or the nephritis of systemic lupus erythematosus. A serum bilirubin is essential where renal failure may be associated with liver damage.

Acute Hyperuricemic Nephropathy

Acute hyperuricemic nephropathy occurs in children in acute leukemia treated with chemotherapy (e.g., prednisone, methotrexate, cyclophosphamide). The level at which acute renal failure occurs varies over a wide range: blood uric acid levels from 18.4±4.6 mg/dl to 34±32 mg/dl (2,4). A recently described association between status epilepticus of 2 to 4 hours' duration and uric acid nephropathy in seven adult patients is heretofore unrecognized association which may have important bearing[3].

Post-Surgical Renal Failure

Renal failure after a surgical procedure, may occur secondary to diminished blood flow to the kidneys, fluid electrolyte disturbances, acidosis, sepsis, and other postoperative complications. Very often the specific cause for the renal failure cannot be found[2]; in these situations the following data usually are present: urine osmolarity (<350 mOsm/liter); urine urea/plasma urea ratio (<5); urinary sodium (<20 mEq/liter), urinary sodium/urinary potassium ratio (>1).

Non-Oliguric Acute Renal Failure

This is usually an unrecognized complication, presenting commonly after surgery. The laboratory analyses which may be of help are: urinary urea/plasma urea ratio less than 10, and iso-osmolar urine, sodium excretion more than 20 mEq/liter in the face

Table 3. Laboratory Data in Differentiation of Acute Renal Failure.

	Uosmo	U/P urea	U/P creatinine	U^{Na} mEq/l	U/P Osmo	U_{Na} U/P creatinine
Pre-renal	>500	20	>40	<20	>2	<1
Renal	<350	3	<20	>60	<1	>1
Non-oliguric	>300	5	<20	>50	<1	>1
Post-renal	>350	5	<15	>60	±	±

Uosmo = urinary osmolality (mOsm/kg). U/P urea = urine to plasma urea ratio. U/P creatinine = urine to plasma creatinine ratio. U_{Na} = urinary sodium. U/P osmo = urine to plasma osmolality ratio.

of low or normal serum sodium. A renal biopsy should be considered where the diagnosis or prognosis is uncertain.

Complications

The complications of acute renal failure can be grouped into those which can be associated with the kidney's inability to regulate fluid balance and those associated with failure of other renal functions.

As previously noted, most cases of renal failure are associated with oliguria, resulting in an increase in total body water and, possibly, in congestive heart failure and hypertension. In part, these factors may explain mild anemia frequently accompanying the acute episode of renal failure. The other complications, including azotemia, hemorrhage, metabolic acidosis and hyperkalemia, are attributable to the failure of other regulatory functions of the kidney. Hypertension may be attributable in part to an alteration in the renin-angiotensin-prostaglandin system.

Treatment

Fluid

It is of the utmost importance to attempt to limit intake of fluids to insensible water loss (300 ml/m^2/24 hrs) plus measured fluid loss (urine, stool, vomiting, etc.). Daily body weights should be accurately determined and plotted as well as fluid volumes. As advocated by Dobrin[4] and others, a loss of 1% of body weight per day in the initial phase of acute renal failure is indicative of optimal fluid therapy. Frequent blood pressure and pulse recordings are also beneficial in assessing the condition of the patient and may be a guide to fluid management.

Hypertension

Hypertension may be treated with the common anti-hypertensive agents such as hydralazine, reserpine or diazoxide. A trial of diuretic therapy may be attempted, using furosemide of 1 mg/kg, but it is rarely effective. Caution must be exercised in the use of hydralazine and diazoxide when there is a significant tachycardia, as the use of the medications usually results in a further increase in heart rate and may result in congestive heart failure. When the hypertension is not readily controlled, or when it is associated with congestive heart failure, peritoneal dialysis should be instituted.

Hyperkalemia

Hyperkalemia results from increased catabolism during renal failure and diminished K^+ excretion. It is aggravated by the associated acidosis; unchecked, this may lead to fatal cardiac arrhythmia. Hyperkalemia of 6 mEq/L should be treated with a cation exchange resin (Kayexalate®) as a retention enema or as an oral preparation. When 1.0 gm/kg of Kayexalate is given orally in divided dose, the serum K^+ will be expected to fall 1 mEq/L. If unsuccessful, peritoneal dialysis should be instituted.

Anemia

Anemia may occur as a result of hemodilution, bone marrow depression associated with azotemia, hemorrhage, or as a component of the disease process (hemolytic-uremic syndrome). Although it is generally well tolerated by most patients in this group, it may give rise to congestive heart failure or to symptoms of cerebral hypoxia. In general, transfusion with packed cells should be instituted whenever the hemoglobin concentration is less than 7.0 gm/dl, or sooner if symptoms attributable to anemia develop. If there is associated hypertension, peritoneal dialysis should be instituted prior to transfusion therapy as another measure to control the hypertension.

Hemorrhage

Hemorrhage may occur as a complication of acute renal failure. Presumably, platelet function is paralyzed due to the accumulation of "middle molecular substances". These substances are readily dialyzable and peritoneal dialysis should be used if bleeding occurs, or when contemplating a renal biopsy when the BUN exceeds 60 mg/dl.

Acidosis

Acidosis should be treated when feasible with sodium bicarbonate. When given parenterally, the amount given should be calculated according to the formula: mEq CO_2 correction desired X 0.6 X body weight (kg). Care must be taken to avoid excessive Na^+ intake, especially in the face of hypertension. CO_2 combining power of 12 mEq/L or more can readily be tolerated for short periods of time, and vigorous attempts to correct this with bicarbonate therapy may not be necessary. Severe acidosis (total $CO_2 < 8$ mEq/L) might best be treated with peritoneal dialysis.

Adequate Nutrition

Adequate nutrition becomes a difficult problem in acute renal failure. Fluid and protein intake must be limited. Excessive carbohydrate intake might create an increased serum osmolality and further complicate fluid balance. Caloric intake of 60-100 cal/kg/day will prevent tissue breakdown and worsening

of the acidosis. An essential amino acid preparation has been utilized recently, both parenterally through a central venous line and as an oral preparation for nutrition in renal failure[5]. The advantage of this preparation lies in the fact that it utilizes endogenous urea nitrogen, K^+ and phosphorus to synthesize tissue and can maintain these parameters within the normal range.

Antibiotics

Antibiotics when indicated, may be used with certain precautions in children with renal failure. In general, penicillin and its derivatives, erythromycin and lincomycin are relatively safe at normal or slightly reduced dosage. The aminoglycosides may be used in the usual dosage initially and adjustments made in the time interval dependent on the serum creatinine. If dialysis is employed, continued dosage will be based on estimations of the serum level of the drug; if this is not feasible, the initial dose may be repeated following dialysis while awaiting the serum determination. Tetracyclines, sulfonamides and nitrofurantoin should be avoided in severe renal failure.

Hyperuricemia

Although allopurinal is the drug of choice for treating hyperuricemic acute renal failure, Steinberg et al[3] maintain that since time is of the essence in preventing the uric acid crystal deposition intracellularly, removal should be by hemodialysis. They showed that hemodialysis is at least six times more effective than peritoneal dialysis in the removal of uric acid, and that a 5-hour hemodialysis removed 8 grams of uric acid, compared to a 30-hour peritoneal dialysis, which removed 4 grams of uric acid. The clearance rate of uric acid was shown to be 10 ml/min by peritoneal dialysis, 80 ml/min by twin coil hemodialysis, and 90 ml/min with the hollow fiber artificial kidney. The choice of mode of therapy depends on a number of factors, including the status of the individual patient, the uric acid level in the blood, the availability of hemodialysis and the expertise and preferences of the nephrology team involved.

Indications for Dialysis

In general, the indications for peritoneal dialysis are:

1. Serum potassium greater than 8 mEq/l;
2. Serum bicarbonate less than 10 mEq/l;
3. BUN greater than 150 mg/dl;
4. Fluid overload with hyponatremia, convulsions, hypertension and/or pulmonary edema.

The decision to begin peritoneal dialysis is an individual one based on the patient, his condition, his di-

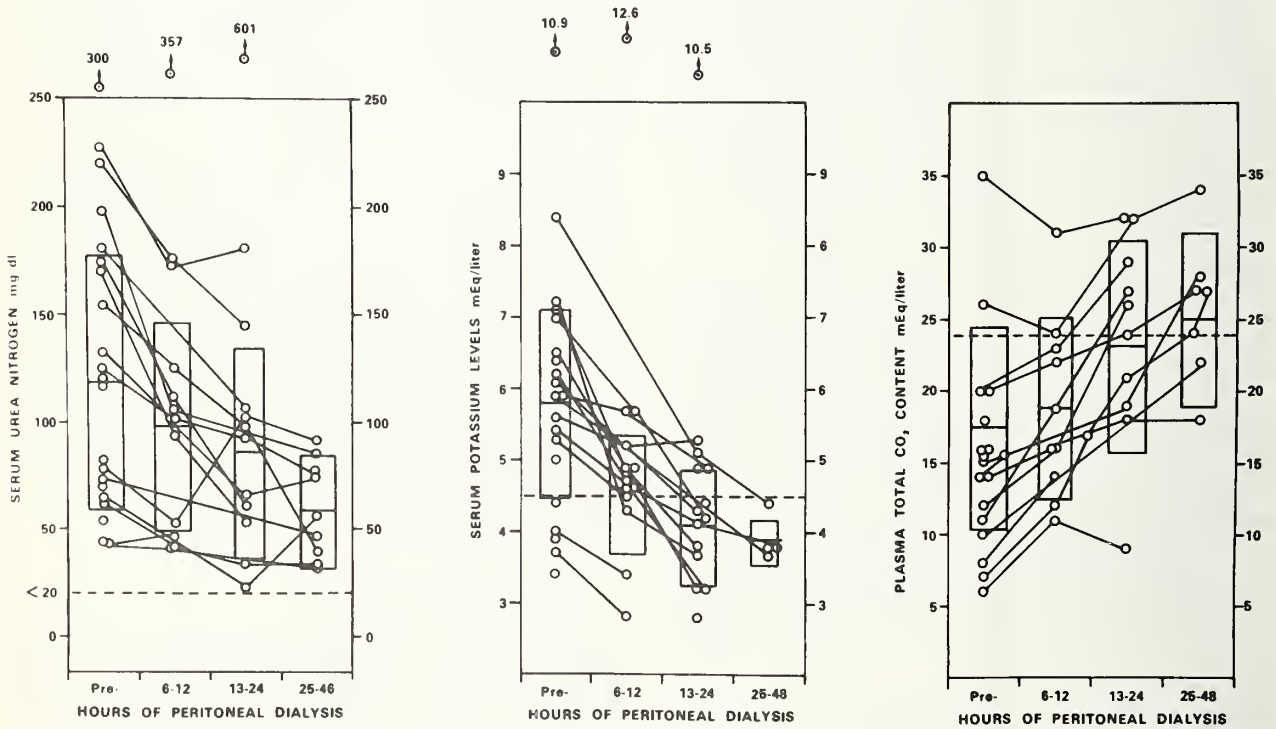


Fig. 1. Peritoneal dialysis in 20 children. Rate of correction of fluid electrolyte disorders secondary to acute renal failure. From *Clinical Pediatrics*, by permission[7].

agnosis and the availability of other modes of therapy.

Figure 1 refers to the effectiveness of peritoneal dialysis in correction of disorders of BUN, potassium and carbon dioxide in 20 cases[6]. It is obvious that the peritoneal dialysis resulted in urea and potassium removal, and achieved a more than 50% reduction within 48 hours. Similarly, the removal of potassium corrected the hyperkalemia after 24 hours of dialysis. Correction of acidosis was achieved at about 24 to 48 hours of dialysis. The complications consisted of omental extrusion in one patient, after the dialysis was discontinued. This was attributed to the failure to put a suture across the skin incision after the peritoneal dialysis trochar was removed.

Prognosis

The overall rate of survival in children with acute renal failure is 70%.[7] The causes of death are sepsis, gastrointestinal bleeding and fluid-electrolyte imbalances when dialysis is initiated too late to be effective.

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Exercise Testing in Children and Adolescents With Cardiovascular Disease

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Exercise testing was the means of finding functional cardiovascular abnormalities in two-thirds of the 400 young patients studied for this report. No complications occurred, and the test results were valuable in counseling and managing the patients.

In adults, exercise testing of cardiovascular function has become established as a useful method for identifying and monitoring cardiovascular disease, but the application of this test to children in the United States is just beginning. This report analyzes the results and consequences of exercise testing in 400 children and adolescents.

Material and Methods

A standardized exercise test was analyzed in 400 consecutive patients who were referred to the Medical College of Virginia for evaluation. Patients ranged in age from 4 to 21 (mean 9.9) years. There were 234 males and 166 females.

A Bruce treadmill test was performed on each patient after at least 2 hours of fasting. Three lead electrocardiograms were monitored continuously before, during, and for 8 minutes after the exercise. The electrograms were recorded simultaneously at 1-minute intervals during exercises and at 2-minute intervals after exercise. Heart rates were calculated from measurements of the number of R-R intervals in 3 seconds. The upper limits of normal rate were selected according to age and sex, using results reported in normal children and adolescents.[1] Inappropriate tachycardia was defined as a rate higher than two standard deviations above the normal mean for age and exercise workload.

Segmental ST depression, reported only if it was unequivocal, was defined as a depression of 1 mm or more of the J point, with flat, downward sloping or slow, upward sloping of the ST segment for 80 milliseconds or longer.[2] Indirect arm blood pressure was measured by auscultation and recorded before exercise, every 3 minutes during exercise, and at 2-minute intervals after exercise. Abnormally high or low systolic blood pressure was identified by comparison with measurements reported in normal children.[3] Elevated exercise pressure was defined as a level higher than two standard deviations above the normal mean value for that exercise workload. Subnormal exercise pressure was defined as a level lower than two standard deviations below the normal mean value for that exercise workload.

In each patient a maximal exercise effort was encouraged, after which the patient rested in the supine position for 8 minutes while heart rate and blood pressure were monitored, then was allowed to sit and walk. If there were no symptoms after 10 minutes the patient was discharged from the laboratory.

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Results

The 400 patients had ten major conditions or reasons for which they were referred for testing (Table 1). Two-thirds of the patients had congenital heart disease. In most of them a cardiovascular surgical procedure had been performed 1-16 years earlier. Rheumatic mitral or aortic valve regurgitation was present in most of the 17% of patients who were referred with acquired disease. A congenital cardiac defect was also present in more than two-thirds of the 8% of referrals for dysrhythmia and 2% of the referrals for syncope.

Table 1. Conditions or Reasons for Referral.

	Patients	
	Number	Percent
Congenital Heart Disease (postoperative)	167	41%
Congenital Heart Disease	100	25%
Acquired Heart Disease	68	17%
Dysrhythmia	34	8%
Syncope	10	2%
Hypertension	6	2%
Chest Pain	6	2%
Rheumatic Valve Disease (postoperative)	3	1%
Hyperlipoproteinemia	3	1%
Abnormal Electrocardiogram	3	1%
Total	400	

Past habits of daily physical activity, assessed by a questionnaire, were restricted in some manner in 53% of patients. In most the restriction was imposed by the parent or the child, less frequently by the managing physician or cardiologist. Only seven patients were participating in organized athletics. The results of testing were completely normal in 37% of patients (Table 2). In 252 patients one of five abnormalities was found, and more than one abnormality were found in 22 of these.

Table 2. Results of Exercise Testing.

	Number of Patients	
Normal Test	148	
Abnormal Test	252	
Subnormal Blood Pressure		98
Exercise Dysrhythmia		59
ST Segment Depression		43
Elevated Blood Pressure		20
Inappropriate Tachycardia		32

The most common exercise abnormality, a subnormal increase in systolic blood pressure, occurred in 98 patients, almost 25% of all of the patients tested. The abnormality was found mostly in children and adolescents with unoperated aortic valver stenosis or surgically treated tetralogy of Fallot. This abnormality was never associated with any cardiovascular symptoms.

Cardiac dysrhythmia occurred during exercise, or within 8 minutes after it, in 59 patients, almost 15% of all the patients tested. In 28 individuals the dysrhythmia had been recognized at rest, and in 31 it had not been apparent before exercise testing. The dysrhythmia usually was an isolated, uniform, ventricular premature depolarization (VPD) that occurred infrequently during the first few minutes of exercise or within 3 minutes after exercise. In six children isolated VPD occurred near maximal exercise. Supraventricular premature depolarizations occurred in four patients. None of the dysrhythmia patients had symptoms during or after exercise.

Significant segmental ST depression was recorded in 43 patients, accounting for 11% of all exercise abnormalities. No patient had symptoms of myocardial ischemia or dysfunction during the period of ST segment change or after it. In each case the ST change returned to normal within 3 minutes after exercise was stopped, except for one child in whom it became normal 5 minutes after exercise. The ST depression was noted at heart rates ranging from 152 to 206 beats per minute, mean 168. Seventeen of these patients had unoperated valvar aortic stenosis. One child had anomalous origin of the left coronary artery and another had hypertension 5 years after aortic coarctectomy. Twenty-four other patients, ST changes occurred with a variety of conditions.

Systolic blood pressure increased abnormally during exercise in 20 patients. The elevation was usually noted at high exercise workloads when heart rates were greater than 150 beats per minute. Maximal pressures above 230 mm Hg were measured in four older adolescents, at which point exercise was discontinued. None of the patients with the hypertensive response had any cardiovascular symptom, and only one had significant segmental ST change. Fifteen of these patients had resting hypertension with systolic pressures above the 95th percentile for sex and age. Eight of these 15 had undergone aortic coarctectomy 1-15 years earlier. Six patients with exercise hypertension were markedly obese, with weight greater than 130% of the normal mean for age and sex.

In 32 patients heart rates were inappropriately high for the level of exercise. In each of these patients the abnormal rate occurred with a relatively low workload at 3-6 minutes of exercise. In 24 of them with no other exercise abnormality, the overall cardiovascular evaluation suggested that the inappropriate tachycardia was evidence for a subnormal level of exercise fitness. In the eight other

patients an abnormality of oxygen transport could have accounted for the inappropriate tachycardia.

Discussion

This survey demonstrates the safety and usefulness of exercise testing in children and adolescents with a variety of cardiovascular conditions or complaints. No complications occurred and only six patients had discomfort or unstable vital signs. Among the 252 patients with abnormal tests, 214 had an abnormality demonstrated only with exercise and not at rest.

The test results were useful in the practical management of patients (Table 3). In 148 patients a normal test provided a basis for recommending participation either in school physical education classes or in organized athletics. When the test was considered along with other cardiovascular findings, 73 patients were identified in whom more exercise was both safe and recommended. In 69 patients testing provided objective evidence for recommending some degree of exercise restriction. In this group the major abnormalities that were found were subnormal blood pressure, ST segment depression, or worrisome dysrhythmia. In 125 patients testing demonstrated or suggested abnormalities that indicated a need for additional study, either by cardiac catheterization or by long-term electrocardiographic monitoring. In 14 patients testing identified a need for additional cardiovascular treatment; four of these had exercise dysrhythmia, two had severe rheumatic valvar regurgitation, and one had several significant congenital cardiac defects. Effective control with cardioactive drugs was demonstrated in four patients, two with hypertension and two with dysrhythmia.

Table 3. Practical Consequences of Testing.

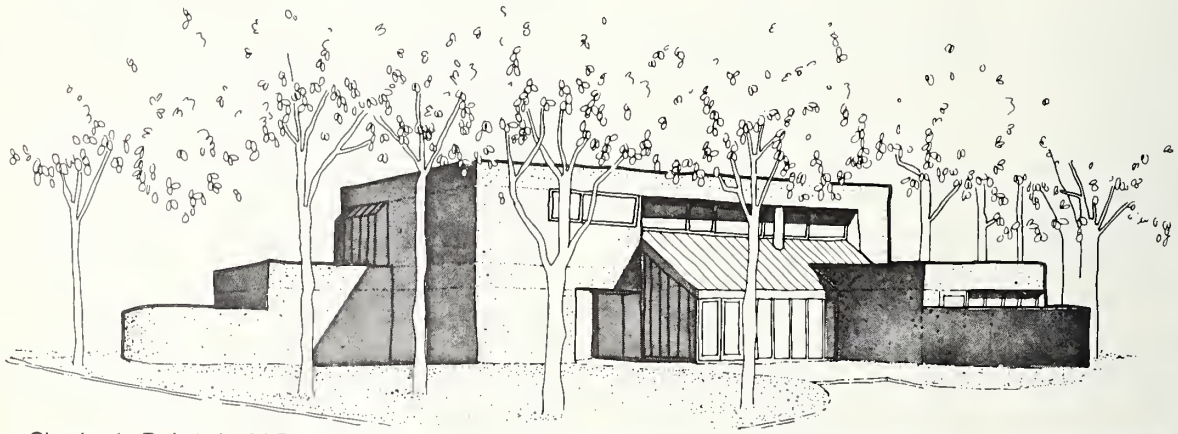
Clearance for Physical Education or Athletics	148
Identified Need for More Exercise	73
Identified Need for Exercise Restriction	69
Identified Need for Cardiovascular Study	125
Identified Need for Treatment	14
Demonstrated Effective Drug Control	4

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Fire Deaths in Virginia: A Review

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ACCIDENTS are the fourth leading cause of death in Virginia and in the United States; only heart disease, cancer, and stroke claim more victims. Accidents are the leading cause of death in the age group 1 to 44 years. Fires cause a significant number of these deaths, ranking either third (in the 1-14 year age group) or fourth (all other age groups).[1,2] Fristrom has reported the existence of definite mortality patterns for fire and flame accidents nationally, for the years 1970-1974.[3]

It was thus of interest to study Virginia's mortality records to see what type of patterns might exist regionally. Data was obtained from the Virginia Center for Health Statistics (for 1950, 1960-75). Burn or fire deaths were considered to be those caused by fire, explosion of combustible material, or accident caused by hot substance, corrosive liquid, or steam (ICDA-8 codes E890-E899 and E924). Fire or burn deaths resulting from transportation accidents as a primary cause were not included.

Results

Almost all fire and flame deaths, both in Virginia and nationally, were due to accidents involving fires rather than hot substances, corrosive liquids, or steam. Mortality data examined by Fristrom attributed 91%-93% of all annual recorded fire deaths nationally for 1970-1974 to fire/flames. (Note that these deaths are not limited to burn deaths; many of them may be due to smoke inhalation. This mortality classification includes all deaths due to fire, not only deaths from burns.)

Most fire/flame deaths are due to fires at home. In Virginia, over the years 1960-1975, the annual percentage of these deaths occurring from accidents in the victim's residence was consistently high, ranging from 82%-94% annually, with a mean of 87%. Other studies report this trend. Levine and Radford found for Baltimore that "the vast majority of victim-related fires occurred in residential building".[4] Fristrom reported that residential fire deaths produced 72%-74% of all annual fire deaths nationally.

Fire accidents at home are a major cause of all home accidental deaths. The National Safety Council reported fire accidents in homes to be the second leading cause of home accidental death in 1974, for the United States. This was true in Virginia also; about one-quarter (26%) of all accident deaths in homes in Virginia were due to fire accidents. Fire deaths in homes were 89% of all fire deaths in Virginia for 1974.

Children and old people have made up a major portion of the total number of fire victims in Virginia over the years. More than a quarter of these victims in 1950 were children under 5 (26%); people 65 or older comprised approximately one-fifth (21%). In 1960 children under 5 accounted for 23% of all fire deaths; those 65 and older for 24%. In 1970 the children's mortality rate dropped (to 13%), but rose for people 65 or older (to 30%); the fire death rate for those 45-64 also rose, from 20% in 1960 to 30% in 1970. Greater fire mortality rates in the young and old seem to be a national trend as well. Fristrom stated that adults over 65 have a national mortality rate of 28%. Levine and Radford reported a fire death rate of about 26% for children under 10 and 38% for those 70 or older. The Virginia data indicated that the major portion of children's fire deaths occurred in children under 5 years old; children aged 5 to 14 accounted for only 8% of fire victims in 1970, 11% in 1960, and 7% in 1950.

A major difference in fire mortality trends in Virginia was found to exist between non-whites (97% blacks) and whites, based on Virginia fire/flame mortality records for 1950, 1960, and 1970-1974. Non-white deaths ranged from 39%-54% of all annual fire deaths, with a predicted death rate of only 19%-22%, assuming a random death pattern for all population groups.[5] Within each racial group males died of fire trauma more frequently. Non-white male deaths were 24%-34% of all annual fire deaths; non-white female deaths were only 14%-21%. During this period the non-white male predicted death rate was 9%-11%; non-white female predicted rate was 10%-11%. White males also died more frequently of fire trauma than did white females; their death rates ranged from 28%-40%, compared with rates for white females of 17%-27%. Predicted white male mortality rates were 39%-40%; white female 38%-41%.

Actual mortality patterns differed considerably from expected patterns in all four race-sex groups. There was also a consistent difference between male and female fire mortality within racial groups. Non-white female fire death rates were lower than non-

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white male death rates, but both were still above the expected non-white death rate. Similarly, for white males the fire mortality rate was above that of white females, but still below expected white mortality patterns. Non-whites died more frequently from accidents involving fires or flames; non-white males in particular died from fire/flames at a higher rate than expected.

Fristrom has reported similar mortality patterns nationally for 1970-1974, finding that non-whites were 25%-27% of all annual fire deaths, while only 12% of the national population. Death trends among non-white males were higher than predicted, 15%-16% of all annual fire deaths but only 6% of the population. Males generally seemed to be more likely to die in fires, with male fire deaths 62%-63% of all national annual fire deaths, with a population proportion of only 49%.

Mortality data from 1950, 1960, and 1970 were further separated into age subgroups within race-sex groups. Expected mortality patterns for all categories were calculated from Virginia census data. Mortality patterns within the five age groups, and in turn within the four race-sex categories, were basically consistent from 1950 through 1970. In every age group except one, non-whites died from accidents involving fire/flame more often than predicted. For the group of non-whites aged 15-44, the actual death rate approached the expected death rate. However, for whites in this group, the death rate was significantly lower than expected. Persons 65 or older had higher mortality frequencies than predicted for both white and non-white groups, for both males and females within the racial groups, over all three years, 1950, 1960, and 1970.

The other age group which claimed a disproportionately large number of victims was children under 5. In this group there was again a large difference between death patterns for whites and non-whites. White mortality rates approached or were lower than predicted trends; however, non-white mortality rates greatly exceeded predicted death trends. The disproportionately high mortality rates in the non-white group caused a significantly higher mortality rate generally. If the non-whites under 5 were to have a death rate similar to that of the whites under 5, then the total under 5 group would have no greater mortality rate than expected, based on population patterns.

Summary

Most of the fire/flame mortality patterns found to exist nationally are found also in Virginia. Almost all deaths are due to fire or flame accidents and not to accidents involving hot but non-burning materials. A major portion of fire/flame deaths (87% annually) is caused by fires at home. Children and older persons are the two population groups who suffer most from fire/flame accidents in the home.

Non-white males have a higher fire death rate than non-white females, although both trends are greater than expected, based on a random death pattern over the general population. Even within five separate age groups, non-whites consistently exhibit a higher death rate than predicted. Mortality trends for whites are lower than expected, based on population estimates, with white males showing a greater proportion of fire deaths than do white females.

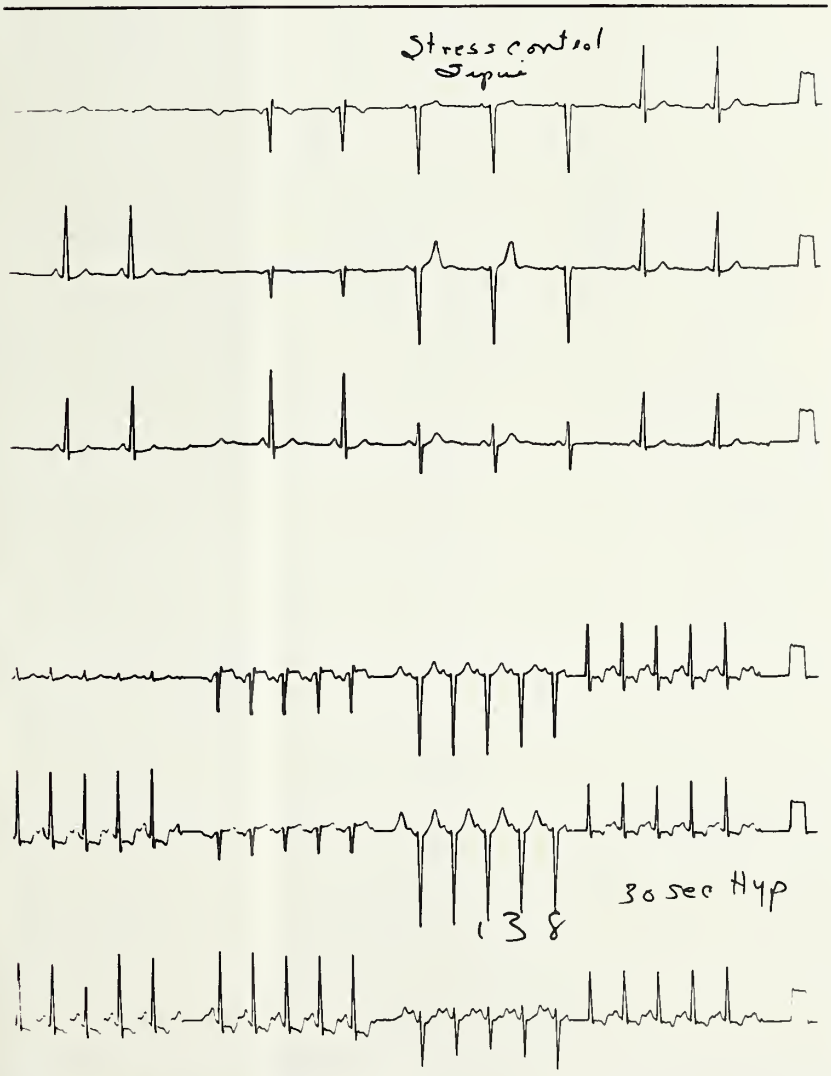
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Can You Diagnose This?

A medical puzzle prepared by Randolph P. Martin, MD, *Charlottesville, Virginia*

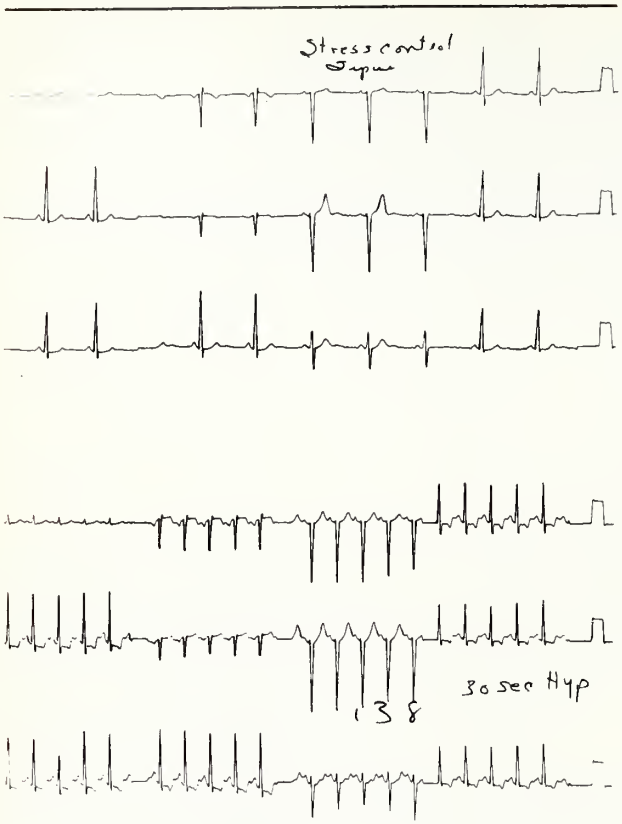


A 32-year-old white male has had multiple emergency room and office visits for complaints of fatigue, palpitations, and chest pain. At times the chest pain have seemed typical of angina pectoris, but at other times atypical. During two emergency room visits, electrocardiographic findings suggestive of inferior lateral ischemia have been noted, and the patient has been hospitalized to rule out myocardial infarction. The EKG shown here was obtained during an exercise thallium stress test. The top panel shows a supine resting EKG, the bottom panel shows the EKG after 30 seconds of hyperventilation.

DIAGNOSIS/DISCUSSION ON NEXT PAGE.

From the Noninvasive Laboratory, Division of Cardiology, University of Virginia Medical Center, Charlottesville VA 22908.

DIAGNOSIS: Neurocirculatory asthenia.



DISCUSSION

The findings of non-specific chest pain and multiple non-specific complaints, coupled with marked ST segment abnormalities during hyperventilation, are highly suggestive of neurocirculatory asthenia. This patient had been hospitalized on multiple occasions after he presented to an emergency room with an EKG which was very similar to that provoked by hyperventilation. He had never had a documented myocardial infarction. He was able to exercise to a level of 14 METS with a normal electrocardiogram and thallium-201 perfusion test. The etiology of the EKG findings in the syndrome is unclear but some have postulated that it is secondary to increased activity of the beta-adrenergic receptor system. Therefore, some have had success in treating these patients' symptomatology with beta blockers, if reassurance did not help.

Tenuate®
(diethylpropion hydrochloride NF)

Tenuate Dospan®
(diethylpropion hydrochloride NF) controlled-release

AVAILABLE ONLY ON PRESCRIPTION

Brief Summary

INDICATION: Tenuate and Tenuate Dospan are indicated in the management of exogenous obesity as a short-term adjunct (a few weeks) in a regimen of weight reduction based on caloric restriction. The limited usefulness of agents of this class should be measured against possible risk factors inherent in their use such as those described below.

CONTRAINDICATIONS: Advanced arteriosclerosis, hyperthyroidism, known hypersensitivity or idiosyncrasy to the sympathomimetic amines, glaucoma. Agitated states. Patients with a history of drug abuse. During or within 14 days following the administration of monoamine oxidase inhibitors, (hypertensive crises may result).

WARNINGS: If tolerance develops, the recommended dose should not be exceeded in an attempt to increase the effect; rather, the drug should be discontinued. Tenuate may impair the ability of the patient to engage in potentially hazardous activities such as operating machinery or driving a motor vehicle; the patient should therefore be cautioned accordingly. *Drug Dependence*: Tenuate has some chemical and pharmacologic similarities to the amphetamines and other related stimulant drugs that have been extensively abused. There have been reports of subjects becoming psychologically dependent on diethylpropion. The possibility of abuse should be kept in mind when evaluating the desirability of including a drug as part of a weight reduction program. Abuse of amphetamines and related drugs may be associated with varying degrees of psychologic dependence and social dysfunction which, in the case of certain drugs, may be severe. There are reports of patients who have increased the dosage to many times that recommended. Abrupt cessation following prolonged high dosage administration results in extreme fatigue and mental depression; changes are also noted on the sleep EEG. Manifestations of chronic intoxication with anorectic drugs include severe dermatoses, marked insomnia, irritability, hyperactivity, and personality changes. The most severe manifestation of chronic intoxications is psychosis, often clinically indistinguishable from schizophrenia. *Use in Pregnancy*: Although rat and human reproductive studies have not indicated adverse effects, the use of Tenuate by women who are pregnant or may become pregnant requires that the potential benefits be weighed against the potential risks. *Use in Children*: Tenuate is not recommended for use in children under 12 years of age.

PRECAUTIONS: Caution is to be exercised in prescribing Tenuate for patients with hypertension or with symptomatic cardiovascular disease, including arrhythmias. Tenuate should not be administered to patients with severe hypertension. Insulin requirements in diabetes mellitus may be altered in association with the use of Tenuate and the concomitant dietary regimen. Tenuate may decrease the hypotensive effect of guanethidine. The least amount feasible should be prescribed or dispensed at one time in order to minimize the possibility of overdosage. Reports suggest that Tenuate may increase convulsions in some epileptics. Therefore, epileptics receiving Tenuate should be carefully monitored. Titration of dose or discontinuance of Tenuate may be necessary.

ADVERSE REACTIONS: *Cardiovascular*: Palpitation, tachycardia, elevation of blood pressure, precordial pain, arrhythmia. One published report described T-wave changes in the ECG of a healthy young male after ingestion of diethylpropion hydrochloride. *Central Nervous System*: Overstimulation, nervousness, restlessness, dizziness, jitteriness, insomnia, anxiety, euphoria, depression, dysphoria, tremor, dyskinesia, mydriasis, drowsiness, malaise, headache; rarely psychotic episodes at recommended doses. In a few epileptics an increase in convulsive episodes has been reported. *Gastrointestinal*: Dryness of the mouth, unpleasant taste, nausea, vomiting, abdominal discomfort, diarrhea, constipation, other gastrointestinal disturbances. *Allergic*: Urticaria, rash, ecchymosis, erythema, *Endocrine*: impotence, changes in libido, gynecomastia, menstrual upset. *Hematopoietic System*: Bone marrow depression, agranulocytosis, leukopenia. *Miscellaneous*: A variety of miscellaneous adverse reactions has been reported by physicians. These include complaints such as dyspnea, hair loss, muscle pain, dysuria, increased sweating, and polyuria.

DOSAGE AND ADMINISTRATION: Tenuate (diethylpropion hydrochloride): One 25 mg. tablet three times daily, one hour before meals, and in midevening if desired to overcome night hunger. Tenuate Dospan (diethylpropion hydrochloride) controlled-release: One 75 mg. tablet daily, swallowed whole, in midmorning. Tenuate is not recommended for use in children under 12 years of age.

OVERDOSAGE: Manifestations of acute overdosage include restlessness, tremor, hyperreflexia, rapid respiration, confusion, assaultiveness, hallucinations, panic states. Fatigue and depression usually follow the central stimulation. Cardiovascular effects include arrhythmias, hypertension or hypotension and circulatory collapse. Gastrointestinal symptoms include nausea, vomiting, diarrhea, and abdominal cramps. Overdose of pharmacologically similar compounds has resulted in fatal poisoning, usually terminating in convulsions and coma. Management of acute Tenuate intoxication is largely symptomatic and includes lavage and sedation with a barbiturate. Experience with hemodialysis or peritoneal dialysis is inadequate to permit recommendation in this regard. Intravenous phentolamine (Regitine®) has been suggested on pharmacologic grounds for possible acute, severe hypertension, if this complicates Tenuate overdosage.

Product Information as of April, 1976

MERRELL-NATIONAL LABORATORIES Inc.
Cayey, Puerto Rico 00633

Direct Medical Inquiries to:
MERRELL-NATIONAL LABORATORIES
Division of Richardson-Merrell Inc.
Cincinnati, Ohio 45215, U.S.A.

Licensor of Merrell®

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Merrell

9-4672 (Y957A)

Overweight may not always be simple... complications can develop.*

Complicated or not...

Tenuate® Dospan® ©IV

(diethylpropion hydrochloride NF)

75 mg. controlled-release tablets



A useful short-term adjunct in an indicated weight loss program.

Overweight patients in certain diagnostic categories often require strict appetite control and a successful program of weight reduction may tend to diminish the incidence or severity of the complications in some patients. Diethylpropion hydrochloride has been reported useful in such patients and while it is not suggested that Tenuate itself in any way reduces the complications of overweight, it may have a useful place as a short-term adjunct in a prescribed dietary regimen. **Tenuate should not be administered to patients with severe hypertension; see additional Warnings and Precautions on the opposite page.**

In uncomplicated overweight.

Many patients, on the other hand, present with excess fat but no disease. While this condition is often termed uncomplicated obesity, complications of both a social and a psychologic nature may be distressingly real for the patients. In these cases, a short-term regimen of Tenuate can help reinforce your dietary counsel during the important early weeks of an indicated weight loss program.

Clinical effectiveness.

The anorectic effectiveness of diethylpropion hydrochloride is well documented. No less than 16 separate double-blind, placebo-controlled studies attest to its usefulness in daily practice.[1] And the unique chemistry of Tenuate provides "...anorectic potency with minimal overt central nervous system or cardiovascular stimulation."[2] Compared with the amphetamines, diethylpropion has minimal potential for abuse.

Tenuate—it makes sense. And it's responsible medicine.

*Studies have shown that obesity is associated with an increased incidence of hypertension, symptomatic heart disease, adult-onset diabetes, and other diseases.

Merrell

For prescribing information see opposite page.

In G.I. therapy



Adjunctive Librax®

Each capsule contains
5 mg chlordiazepoxide HCl
and 2.5 mg clidinium Br

antianxiety/antisecretory/antispasmodic

for adjunctive therapy of duodenal ulcer* and irritable bowel syndrome*

Librax®

Please consult complete prescribing information, a summary of which follows:

* **Indications:** Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the indications as follows:
"Possibly" effective: as adjunctive therapy in the treatment of peptic ulcer and in the treatment of the irritable bowel syndrome (irritable colon, spastic colon, mucous colitis) and acute enterocolitis.
Final classification of the less-than-effective indications requires further investigation.

Contraindications: Glaucoma, prostatic hypertrophy, benign bladder neck obstruction, hypersensitivity to chlordiazepoxide HCl and/or clidinium Bromide.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants, and against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Physical and psychological dependence rarely reported on recommended doses, but use caution in administering Librium® (chlordiazepoxide HCl/Roche) to known addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions) reported following discontinuation of the drug.

***Usage in Pregnancy*: Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy. Advise patients to discuss therapy if they intend to or do become pregnant.**

As with all anticholinergics, inhibition of lactation may occur.

Precautions: In elderly and debilitated, limit dosage to smallest effective amount to preclude ataxia, oversedation, confusion (no more than 2 capsules/day initially; increase gradually as needed and tolerated). Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider pharmacology of agents, particularly potentiating drugs such as MAO inhibitors, phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions reported in psychiatric patients. Employ usual precautions in treating anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship not established.

Adverse Reactions: No side effects or manifestations not seen with either compound alone reported with Librax. When chlordiazepoxide HCl is used alone, drowsiness, ataxia, confusion may occur, especially in elderly and debilitated; avoidable in most cases by proper dosage adjustment, but also occasionally observed at lower dosage ranges. Syncope reported in a few instances. Also encountered: isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent, generally controlled with dosage reduction; changes in EEG patterns may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice, hepatic dysfunction reported occasionally with chlordiazepoxide HCl; making periodic blood counts and liver function tests advisable during protracted therapy. Adverse effects reported with Librax typical of anticholinergic agents, *i.e.*, dryness of mouth, blurring of vision, urinary hesitancy, constipation. Constipation has occurred most often when Librax therapy is combined with other spasmolytics and/or low residue diets.

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Manati, Puerto Rico 00701

The Medical Society of Virginia
PROCEEDINGS

Minutes of Council

A meeting of the Council of The Medical Society of Virginia was held in Richmond at Society headquarters on Saturday, April 26, 1980.

Members Present: Dr. George M. Nipe; Dr. Percy Wootton; Dr. Charles E. Davis, Jr.; Dr. H. C. Alexander, III; Dr. K. K. Wallace, Jr.; Dr. William S. Burton; Dr. Charles M. Caravati, Jr.; Dr. Anthony J. Munoz; Dr. Glenn B. Updike, Jr.; Dr. William W. S. Butler, III; Dr. Robert C. Green, Jr.; Dr. Harry C. Kuykendall; Dr. John T. Hulvey; Dr. C. Barrie Cook.

Others Present: Dr. James P. Harnsberger, 3rd Vice President; Dr. Frederick K. McCune, Dr. James V. Scutero, Dr. Lawrence V. Marshall, Dr. John M. Stirewalt, Dr. George E. Broman and Dr. Gerald J. Fisher, Vice-Councilors; Dr. F. Ashton Carmines, Dr. Michael A. Puzak and Dr. Carl E. Stark, AMA Delegates; Dr. Arthur A. Kirk, Dr. W. Leonard Weyl and Dr. Raymond S. Brown, Alternate AMA Delegates; Dr. Edwin Brown, representing Dr. James B. Kenley, Commissioner, State Department of Health; Dr. William S. Hotchkiss, Member Board of Trustees of AMA; Mrs. Charles G. Smith, President, The Medical Society of Virginia Auxiliary; Janice Heckel and Sam Barton, representing the MCV Student Medical Society; Vaughan Hall, representing the UVA Student Medical Society; Mr. Allen C. Goolsby, III, Attorney for the Society; Mr. Edward S. DeBolt, Society Consultant, and Mr. Bernie Smith, representing Medical Service Consultants.

Following the invocation by Dr. Carmines, Dr. Nipe introduced Council's guests of the day.

Psychiatric Outpatient Coverage

Dr. George Kriegman and Dr. William McDonough, representing the Virginia Psychoanalytic Society, discussed recent action by Blue Cross-Blue Shield which would place certain limitations on psychiatric outpatient coverage. They indicated that the limitations are of particular concern to employers with group plans covering less than 50 employees. Blue Cross-Blue Shield of Virginia was reported to have imposed a limitation of $2,000 per member per year on such plans. The Psychoanalytic Society is contacting many of the larger employers for the purpose of explaining their objections to the approach being taken by Blue Cross-Blue Shield.

Several reasons were cited for opposing the use of fixed ceilings on coverage.

Council was reminded that the House of Delegates, during its meeting last November, had adopted a resolution which recognized the need for cost containment in health care and endorsed the position that Blue Cross-Blue Shield of Virginia should strive to obtain effective cost containment through utilization of independent review mechanisms rather than by restriction of benefits and elimination of some treatment procedures.

It was then moved by Dr. Kuykendall that the action taken by the House of Delegates in 1979, when it adopted Resolution "W", be reaffirmed. The motion was seconded and carried.

VaMPAC

Dr. Weyl, chairman of VaMPAC, reported that

PAC membership has passed the 1200 level. VaMPAC's goal is 2,000 and every effort is being made to reach that figure by the end of the year. Dr. Weyl went on to report a change in VaMPAC's organizational structure and announced that the position of executive director will be replaced by that of office manager. He also announced that Mr. Robert Carmines has been employed as the VaMPAC educational field representative. Dr. Weyl has agreed to serve in an advisory capacity to Vanguard.

Auxiliary

Mrs. Smith reported that the Auxiliary now has 1,929 members. Of particular interest was the fact that a new auxiliary has just been organized in the Patrick-Henry area—the first in 14 years. There is also a possibility of forming an auxiliary in Augusta County in the not too distant future.

Mrs. Smith expressed the hope that members of Council would assist her in organizing other auxiliaries over the state. She felt that such assistance is absolutely necessary if organizational goals are to be realized.

It was learned that local auxiliaries have raised more than $38,000 for various philanthropic projects and that approximately $31,000 has already been raised for AMA-ERF. Other auxiliary projects are concerned with legislation, traveling exhibits, financial seminars and ERF workshops, etc. The Auxiliary's mid-year board meeting was held at the Tides Inn, Irvington, and 25 physicians were also on hand for a special program having to do with the alcoholic patient.

Legislative Update

Mr. Goolsby advised Council that the Willey Commission will be continued for another two years and will likely spend some time in the area of medical necessity. It is also possible that chiropractic services will be studied to some extent by the Commission.

Medicine fared rather well during the last session of the General Assembly. It must remain alert, however, to further consideration by the Assembly of the statute of limitations, certificate of need where the use of dialysis units is concerned, death with dignity, etc.

Chiropractic

Council, during its last meeting, requested that a special committee be appointed to study the Society's current policy statement having to do with chiropractic. Although a committee headed by Dr. Gervas Taylor has given a great deal of time and effort to such a statement, the thought was expressed that it might be advisable to carry the matter over until Council's June meeting. Mr. Goolsby indicated that he would have some thoughts also at that time. It was agreed that the matter would be placed on the June 28 agenda.

Insurance Update

The Insurance Committee, as directed by Council, has reviewed the reports of two special consultants employed to consider the feasibility of establishing a physician-controlled professional liability insurance company. Mr. Goolsby stated that prior to the Committee's meeting with the consultants, St. Paul had indicated its intention to file for a 33% premium increase. As a result, and at the suggestion of St. Paul, a highly qualified actuary was employed to study the proposed filing and make his thoughts known to the Committee. St. Paul consented to pay the expense of such a study.

After meeting with the consultants and actuary, and reviewing their separate reports, the Committee listed its alternatives. The first involves a meeting with St. Paul officials for the purpose of negotiating a more acceptable arrangement with reference to investment income and the setting up of a dividend plan designed to adjust and compensate for any "over reserving" on the part of the carrier. Arrangements of a somewhat similar nature are currently in effect in a number of states.

Should the negotiations not prove productive, the Society would have the alternative of contacting other carriers and entertaining their proposals. A last alternative would be to set about either establishing a captive company or affiliating with one already in operation.

As a result of the Committee's findings, representatives of the Soceity will quite likely meet with St. Paul officials in the not too distant future and seek to determine just what can be done to make the Society sponsored program more acceptable in terms of dividends, investment income, etc.

Mr. Moore then advised Council that the Committee has recommended sponsorship of a Dental Health Plan to be made available through the David A. Dyer Agency. Although Blue Shield had also submitted a very attractive proposal, the Committee felt the Society was not ready for a mandatory type coverage. Consequently, it recommended that the Dyer plan be adopted. A number of requests have been received for such a program and the recommended plan should provide the answer. A motion by Dr. Cook to sponsor the plan as recommended by the Committee was seconded and adopted.

Medicaid Regulations

The Richmond Academy of Medicine has called Council's attention to recent regulations concerned with non-discriminatory practices of providers receiving Medicaid funds. The Academy believes that enforcement of these regulations could conceivably result in a number of physicians deciding to no longer serve medicaid patients.

Mr. Goolsby pointed out that the regulations are concerned only with Medicaid and suggested that a short explanatory article be published in VIRGINIA MEDICAL. It was pointed out that the regulations will pose very little problem for those physicians with less than 15 employees. Those with a greater number should, at least for the moment, seek advice of counsel.

Brought out was the fact that the regulations are federal in nature and there is very little that the Department of Health can do. The Department is, however, anxious to work with The Medical Society of Virginia in any way that it can. The regulations are concerned with such matters as employment, treatment of patients, etc.

Dr. Caravati moved that the explanatory article suggested by Mr. Goolsby be published in VIRGINIA MEDICAL in the hope that it will assist those physicians with less than 15 employees. The motion would also refer to an appropriate committee the problem confronting those physicians with more than 15 employees and request that recommendations for an acceptable solution be brought back for Council's consideration. The motion was seconded and carried.

Symposium on Emergency Medical Services

The Medical Society of Virginia has been invited to co-sponsor a statewide symposium on emergency medical services to be held in Williamsburg on December 5–6. Other sponsors include the State Department of Health, American Trauma Society, American College of Emergency Physicians—Virginia Chapter, Virginia Association of Volunteer Rescue Squads, etc. The symposium is designed to address and clarify matters of concern to all members of the EMS team, including physicians, nurses and administrators.

It was learned that the Governor will very probably be the keynote speaker and that any cost to the Society would be minimal. In addition, the Society will be provided feedback from the symposium.

A motion by Dr. Davis permitting the Society to co-sponsor the symposium was seconded and carried.

Public Relations

Dr. McCune, chairman of the Public Relations Committee, reported that the Burroughs-Wellcome project is not working out too well. This can be attributed in large part to the fact that little interest has been evidenced by the various component societies. A need still exists, however, for effective speakers at the grass roots level and the Committee is ready to promote a project designed to accomplish this objective. It is a component society's speakers bureau program, developed by Mr. DeBolt and based to some extent on a well tested and highly successful program sponsored by the Fairfax County Medical Society. The complete program is contained in a special portfolio which contains a very straightforward, step-by-step method for organizing a speakers bureau and making it operational.

It was at this point that Dr. Davis lamented the fact that recent annual meetings of the Society have received little, if any, coverage by the news media. He stated that the North Carolina Medical Society enjoys an excellent working relationship with the media and provides sufficient incentive for TV and newspaper reporters to attend its meetings and furnish maximum coverage. The Society apparently sponsors an annual party for media personnel and makes available special press rooms, telephones, etc. Dr. Davis went on to say that other Virginia professional associations seem to do better than The Medical Society of Virginia and used the Nurses' Association as an example.

Dr. McCune then asked Council for its assistance in providing his Committee with names of physicians in the various districts who are sincerely interested in PR and can be contacted for assistance.

Mr. DeBolt stated that there is no one thing or project which will by itself result in good PR. Rather, good PR is the result of many things which in combination can bring about the desired results.

A motion by Dr. Green which would have Mr. DeBolt and Dr. McCune devise a comprehensive public relations program was seconded. A substitute motion by Dr. Butler which called for more positive support of the Society's current PR program was seconded and carried.

Weight Loss Clinics

The Society has recently received an expression of concern over the activities of the many weight loss clinics which have become quite active in the state. There are some physicians who consider the programs as possibly medically unsound and potentially hazardous.

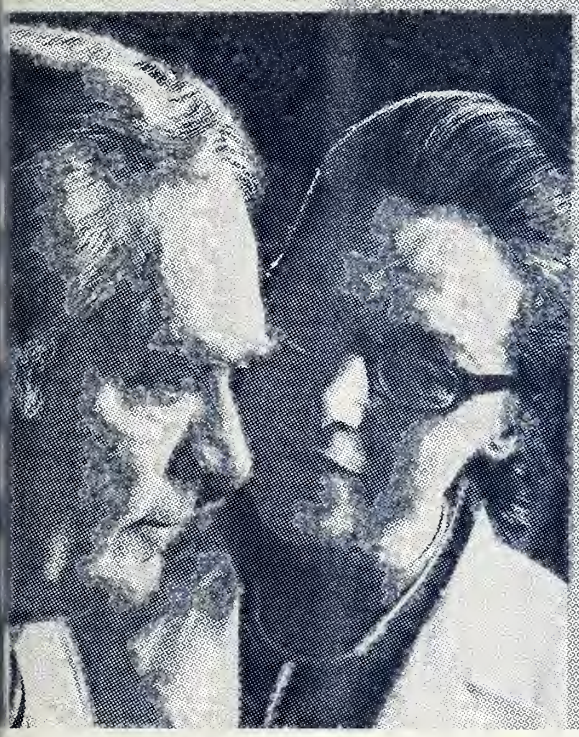
A question was raised as to whether any of these clinics are operating without physician supervision. It was reported that the State Board of Medicine has in-



proven antianxiety

Highly specific calming action virtually free of unwanted side effects: this was the remarkable clinical promise of Librium (chlordiazepoxide HCl). **And today this promise continues to be fulfilled in a wide variety of patients you see every day.**

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The published record on Librium is enormous. So large, in fact, it had to be put into a computer data bank and retrieval system. It's a record that shows Librium is highly effective in relieving anxiety; that Librium is seldom associated with serious side effects; that Librium rarely interferes with mental acuity at proper doses; that Librium is used concomitantly with primary medications. However, as with all CNS agents, patients should be warned against hazardous activities requiring complete alertness, and about possible combined effects with alcohol.

performance

Librium® (IV)

chlordiazepoxide HCl/Roche



5mg, 10mg, 25mg capsules

synonymous with relief of anxiety

- An unsurpassed safety record
- Minimal effect on mental acuity, in proper dosage
- Predictable patient response
- Is used concomitantly with primary medications, such as anticholinergics and cardiovascular drugs

Please see next page for summary of product information.

Librium® 5mg, 10mg, 25mg capsules
chlordiazepoxide HCl/Roche

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Relief of anxiety and tension occurring alone or accompanying various disease states. Efficacy beyond four months not established by systematic clinical studies. Periodic reassessment of therapy recommended.

Contraindications: Patients with known hypersensitivity to the drug.

Warnings: Warn patients that mental and/or physical abilities required for tasks such as driving or operating machinery may be impaired, as may be mental alertness in children, and that concomitant use with alcohol or CNS depressants may have an additive effect. Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported.

Usage in Pregnancy: **Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

Precautions: In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (*e.g.*, excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

Adverse Reactions: Drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver function tests advisable during protracted therapy.

Usual Daily Dosage: Individualize for maximum beneficial effects. *Oral–Adults.* Mild and moderate anxiety and tension, 5 or 10 mg *t.i.d.* or *q.i.d.*, severe states, 20 or 25 mg *t.i.d.* or *q.i.d. Geriatric patients:* 5 mg *b.i.d.* to *q.i.d.* (See Precautions.)

Supplied: Librium® (chlordiazepoxide HCl) *Capsules*, 5 mg, 10 mg and 25 mg—bottles of 100 and 500; Tel-E-Dose® packages of 100, available in trays of 4 reverse-numbered boxes of 25, and in boxes containing 10 strips of 10; Prescription Paks of 50, available singly and in trays of 10. Libritabs® (chlordiazepoxide) *Tablets*, 5 mg, 10 mg and 25 mg—bottles of 100 and 500. With respect to clinical activity, capsules and tablets are indistinguishable.

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vestigated a number of the clinics and found them technically within the law. Most of them apparently have a physician of record, and he supposedly examines the participant and outlines a treatment program.

Dr. Cook expressed the feeling that the public should be made aware of the Soceity's concern and be advised concerning those things which should be looked for in clinics of this nature.

Mr. DeBolt indicated that he would prepare a special release and submit it to Mr. Goolsby for his consideration and approval.

A question was then raised as to whether the advertising employed by the clinics is in any way misleading and unethical. It was agreed that the Ethics Committee should study these ads, keeping in mind the role of the physician.

Travel Program—1980 and 1981

Dr. Nipe reported that a very interesting trip is available to Society members in late September. It is of approximately two weeks' duration and features visits to Greece and Yugoslavia. Departure would be from Dulles. A motion by Dr. Wootton to approve the trip was seconded and carried.

During the ensuing discussion a question was raised as to why the Society sponsors any type of travel program. It was learned that group travel is quite popular with the membership—particularly since it means that physicians can travel with their colleagues and others with similar interests.

Dr. Wootton then recommended a mid-winter trip which would depart Dulles in January or February, 1981. The trip would be to St. Maarten and would be of one week's duration. A motion to accept Dr. Wootton's recommendation was seconded and carried.

Quality Assurance Seminar

The Society has been invited to join with the Virginia Hospital Association and Virginia Hospital Insurance Reciprocal in co-sponsoring a quality assurance seminar sometime in the early fall. The location will be either Williamsburg or the Homestead and the program would begin on Friday morning and run through Saturday noon. Although the cost factor is difficult to predict, it is hoped and expected that individual registration fees will cover all expenses.

A motion by Dr. Munoz to co-sponsor the seminar was seconded. During the discussion, Dr. Kuykendall called Council's attention to a resolution adopted last year opposing cumulative profiling. It was his feeling that should the Society co-sponsor the seminar, it should by all means have some official

representation to make sure that the interests of the membership are fully protected. It was also suggested that the proposed program be studied very carefully to determine its acceptability. The motion by Dr. Munoz was then adopted.

Dr. Kuykendall then moved that the Society have an official presence at the seminar. His motion was seconded and carried.

Congressman Satterfield

The following resolution, as presented by Dr. Caravati, was adopted:

WHEREAS, David E. Satterfield, III (D,VA), Congressman from Virginia's Third Congressional District, has announced that he will not stand for re-election, and

WHEREAS, Congressman Satterfield has, for sixteen years diligently served his district, state and nation, and

WHEREAS, Congressman Satterfield has been a good friend to American medicine and a champion of its efforts to remain free of restrictive governmental controls, and

WHEREAS, he has earned the admiration, gratitude and respect of not only the nation's physicians, but also his colleagues in the Congress, through his work as a member of two of the most important health related sub-committees of the House of Representatives, therefore be it

RESOLVED, that the Council of The Medical Society of Virginia, in session on April 26, 1980, take recognition of the many achievements of Congressman Satterfield—particularly those which have helped preserve the finest system of medical care the world has ever known, and be it further

RESOLVED, that The Medical Society of Virginia extend to Congressman Satterfield its sincere best wishes for many years of happiness and fulfillment.

Annual Meetings

Considerable concern has been expressed as to whether the locations for the 1981 and 1983 annual meetings are adequate in view of the Society's growth and new demands for space. Mr. Goolsby stated that considerable research had been conducted in an effort to determine whether the commitments made with the hotels concerned do in fact constitute enforceable agreements. He did not believe that, from a legal point of view, one could say that the agreements were not enforceable.

Following considerable discussion, it was agreed that an effort should be made to negotiate a release from the 1981 commitment. There was some feeling that the Society would not encounter too much difficulty as far as 1983 is concerned, the time factor being sufficient to permit the hotel to obtain other bookings.

Dr. Wallace indicated that we are faced with serious space problems in Williamsburg this year. He cited as an example the need of four reference committees rather than three as in the past. Dr. Wallace went on to say that, in his opinion, not more than two reference committees should meet at one time. This would permit members to attend more than one committee and participate in discussions of particular interest. Consequently, he will look into the feasibility of having two committees meet in the morning and two in the afternoon of November 7.

Dr. Wallace also suggested that elections and installation of officers be conducted at a specific time during the second session of the House. This would make it easier for relatives and friends to attend. This suggestion was well received.

Resident Membership

Dr. Hotchkiss stated that students and residents are becoming more and more active in AMA affairs and that many states now have provisions for resident membership. He called attention to the fact that there are approximately 570 residents in Virginia who have joined AMA through a bylaws provisions which permits a direct form of membership when the state medical society concerned has no appropriate membership category. Dr. Hotchkiss went on to say that residents have made great strides in recent years and are making a real contribution to AMA. It was his hope that the articles and bylaws of the Society could be amended in such manner as to provide an acceptable category of membership for residents. He also urged that Mr. Gary Fetgatter, AMA Department of House Staff Affairs, be invited to address Council on the matter.

There followed considerable discussion during which some concern was expressed over the collective bargaining activities of residents in some areas of the nation. Mr. Moore reported that residents have for some years been eligible for courtesy membership in the Society. Unfortunately, it has been an extremely difficult group with which to maintain contact. Should some form of active membership be authorized, dues in some amount would appear necessary. Because of the current postal regulations, the VIRGINIA MEDICAL cannot add to its complimentary subscriber list.

Dr. Davis moved that active membership for residents be endorsed and that the matter be referred to the Membership Committee for final recommendations. His motion was seconded.

Dr. Weyl expressed the feeling that the matter of

resident membership could be handled very easily if component societies were encouraged to accept them as members.

The motion by Dr. Davis was then adopted with the understanding that Mr. Fetgatter would be invited to a future meeting of Council should it seem desirable.

CME and Membership

Dr. Broman advised Council that approximately 400 members in the first group required to report CME credits (A thru G) have not yet indicated compliance with the requirements set forth in the bylaws. The Committee has met on two occasions in an effort to develop a reasonable and effective approach to the problem and is now ready to mail a second followup letter to those who have not yet complied. Dr. Broman expressed the hope that the problem will have resolved itself by the time Council meets in June. If not, the Committee will be prepared to suggest such action as might be required.

The Committee has agreed on several categories of exemption. They are: those in full retirement—seeing no patients and writing no prescriptions; full-time students; house staff and research fellows; full-time medical educators; those totally incapacitated by medical disability; and other instances of severe hardship. The next followup letter will list the exemptions and will contain a return postcard to facilitate reply.

Following considerable discussion, Council adopted a motion by Dr. Wallace approving the proposed letter and recommending that reference to educators be omitted.

Accreditation by LCCME

The Committee on Education was requested by Council to make a recommendation as to whether the Society should recognize CME approved by the Liaison Committee on Continuing Medical Education (LCCME). After very careful consideration, it was the Committee's recommendation that CME credits obtained through LCCME be accorded the same recognition as those obtained through programs accredited by AMA.

A motion by Dr. Updike adopting the Committee's recommendation was seconded and carried.

Dr. Kendig

Dr. Edwin L. Kendig, Jr., Richmond, has been nominated by the American Academy of Pediatrics for election to the AMA Council on Medical Education. Dr. Wootton stated that Dr. Kendig is unusually well qualified to serve on the Council and expressed the hope that The Medical Society of Virginia would support his candidacy. He stated that two of the five members of the Council whose terms expire in July are not eligible for reelection.

Dr. Hotchkiss pointed out that Dr. Kendig has long been one of Virginia's most distinguished physicians and should certainly enjoy the support of the Society. Some concern was expressed over the fact that one of the Council's current members is from North Carolina and a member of the southeastern states coalition. It is difficult to predict if this will prove an obstacle to Dr. Kendig's candidacy.

Everyone agreed that Dr. Kendig deserved the Society's full support and a motion by Dr. Wootton to contact all AMA delegates and alternates in this regard was seconded and carried. It was agreed, however, that the delegates and alternates would be written after official notice of Dr. Kendig's nomination by the American Academy of Pediatrics is received.

Rotating Internships

There has been some concern in recent days over the fact that the AMA House of Delegates has been considering a proposal which, among other things, would revive rotating internships. Although there are those who support such a move, a number of specialty groups feel that their particular disciplines would suffer.

Although no definitive action by the AMA House of Delegates is expected in the near future, Virginia's delegates indicated that they were aware of the situation and would watch it very closely.

PSRO

In keeping with a recommendation of the Society's Liaison Committee to PSRO, and action upon a motion by Dr. Kuykendall, the following recommendations will be referred to the Committee on Legislation:

- **That medical review organizations, their agents and employees, be granted statutory immunity from civil liability provided they act without malice;**
- **That the current statutes on medical peer review either be replaced by new legislation or amended to make them parallel and do away with any confusing language;**
- **That a determination by a medical review organization that a health care provider has failed to provide care which meets professional standards of quality (a) in a substantial number of instances and there is a finding of unwillingness or inability to meet professional standards of medical care, or (b) that a health care provider has failed to provide care which meets professional standards of quality in a gross or flagrant manner, be reported to the appropriate state licensing agency on a mandatory basis.**

WHEN ANXIETY AND TENSION MAGNIFY PAIN

IN MUSCULOSKELETAL DISEASE*



A non-narcotic one-two punch against pain, with concurrent relief of anxiety/tension

EQUAGESIC® C IV

(meprobamate and ethoheptazine citrate with aspirin) Wyeth

EQUAGESIC—Abbreviated Summary

***INDICATIONS**: Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the indications as follows:

"Possibly" effective: for the treatment of pain accompanied by tension and/or anxiety in patients with musculoskeletal disease or tension headache.

Final classification of the less-than-effective indications requires further investigation.

The effectiveness of Equagesic in long-term use, i.e. more than four months, has not been assessed by systematic clinical studies. The physician should periodically reassess usefulness of the drug for the individual patient.

CONTRAINDICATIONS: Equagesic should not be given to individuals with a history of sensitivity or severe intolerance to aspirin, meprobamate, or ethoheptazine citrate.

WARNINGS: Careful supervision of dose and amounts prescribed for patients is advised, especially with those patients with known propensity for taking excessive quantities of drugs. Excessive and prolonged use in susceptible persons, e.g., alcoholics, former addicts, and other severe psychoneurotics, has been reported to result in dependence on or habituation to the drug. Where excessive dosage has continued for weeks or months, dosage should be reduced gradually rather than abruptly stopped, since withdrawal of a "crutch" may precipitate withdrawal reaction of greater proportions than that for which the drug was originally prescribed. Abrupt discontinuance of doses in excess of the recommended dose has resulted in some cases in the occurrence of epileptiform seizures.

Special care should be taken to warn patients taking meprobamate that tolerance to alcohol may be lowered with resultant slowing of reaction time and impairment of judgement and coordination.

USAGE IN PREGNANCY AND LACTATION: An increased risk of congenital malformations associated with the use of minor tranquilizers (meprobamate, chlordiazepoxide, and diazepam) during the first trimester of pregnancy has been suggested in several studies. Because use of these drugs is rarely a matter of urgency, their use during this period should almost always be avoided. The possibility that a woman of child-bearing potential may be pregnant at the time of institution of therapy should be considered. Patients should be advised that if they become pregnant during therapy or intend to become pregnant they should communicate with their physicians about the desirability of discontinuing the drug.

Meprobamate passes the placental barrier. It is present both in umbilical-cord blood at or near maternal plasma levels and in breast milk of lactating mothers at concentrations two to four times that of maternal plasma. When use of meprobamate is contemplated in breast-feeding patients, the drug's higher concentrations in breast milk as compared to maternal plasma levels should be considered.

Preparations containing aspirin should be kept out of the reach of children. Equagesic is not recommended for patients 12 years of age and under.

PRECAUTIONS: Should drowsiness, ataxia, or visual disturbance occur, the dose should be reduced. If symptoms continue, patients should not operate a motor vehicle or any dangerous machinery.

Suicidal attempts with meprobamate have resulted in coma, shock, vasomotor and respiratory collapse, and anuria. Very few suicidal attempts were fatal, although some patients ingested very large amounts of the drug (20 to 40 gm). These doses are much greater than recommended. The drug should be given cautiously, and in small amounts, to patients who have suicidal tendencies. In cases where excessive doses have been taken, sleep ensues rapidly and blood pressure, pulse, and respiratory rates are reduced to basal levels. Hyperventilation has been reported occasionally. Any drug remaining in the stomach should be removed and symptomatic treatment given. Should respiration become very shallow and slow, CNS stimulants, e.g., caffeine, Metrazol, or amphetamine, may be cautiously administered. If severe hypotension develops, pressor amines should be used parenterally to restore blood pressure to normal levels.

ADVERSE REACTIONS: A small percentage of patients may experience nausea with or without vomiting and epigastric distress. Dizziness occurs rarely when meprobamate and ethoheptazine citrate with aspirin is administered in recommended dosage. The meprobamate may cause drowsiness but, as a rule, this disappears as therapy is continued. Should drowsiness persist and be associated with ataxia, this symptom can usually be controlled by decreasing the dose, but occasionally it may be desirable to administer central stimulants such as amphetamine or mephentermine sulfate concomitantly to control drowsiness.

A clearly related side effect to the administration of meprobamate is the rare occurrence of allergic or idiosyncratic reactions. This response develops, as a rule, in patients who have had only 1-4 doses of meprobamate and have not had a previous contact with the drug. Previous history of allergy may or may not be related to the incidence of reactions.

Mild reactions are characterized by an itchy urticarial or erythematous, maculopapular rash which may be generalized or confined to the groin. Acute nonthrombocytopenic purpura with cutaneous petechiae, ecchymoses, peripheral edema, and fever have also been reported.

More severe cases, observed only very rarely, may also have other allergic responses, including fever, fainting spells, angioneurotic edema, bronchial spasms, hypotensive crises (1 fatal case), anaphylaxis, stomatitis and proctitis (1 case), and hyperthermia. Treatment should be symptomatic such as administration of epinephrine, antihistamine, and possibly hydrocortisone. Meprobamate should be stopped, and reinstitution of therapy should not be attempted.

Rare cases have been reported where patients receiving meprobamate suffered from aplastic anemia (1 fatal case), thrombocytopenic purpura, agranulocytosis, and hemolytic anemia. In nearly every instance reported, other toxic agents known to have caused these conditions have been associated with meprobamate. A few cases of leukopenia during continuous administration of meprobamate are reported, most of these returned to normal without discontinuation of the drug.

Impairment of accommodation and visual acuity has been reported rarely.

OVERDOSE: Two instances of accidental or intentional significant overdosage with ethoheptazine citrate combined with aspirin have been reported. These were accompanied by symptoms of CNS depression, including drowsiness and light-headedness, with uneventful recovery. However, on the basis of pharmacological data, it may be anticipated that CNS stimulation could occur. Other anticipated symptoms would include nausea and vomiting. Appropriate therapy of signs and symptoms as they appear is the only recommendation possible at this time. Overdosage with ethoheptazine combined with aspirin would probably produce the usual symptoms and signs of salicylate intoxication. Observation and treatment should include induced vomiting or gastric lavage, specific parenteral electrolyte therapy for ketoacidosis and dehydration, watching for evidence of hemorrhagic manifestations due to hypoprothrombinemia which, if it occurs, usually requires whole-blood transfusions.

DESCRIPTION: Each Equagesic tablet contains 150 mg meprobamate, 75 mg ethoheptazine citrate and 250 mg aspirin.

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*This drug has been evaluated as possibly effective for this indication

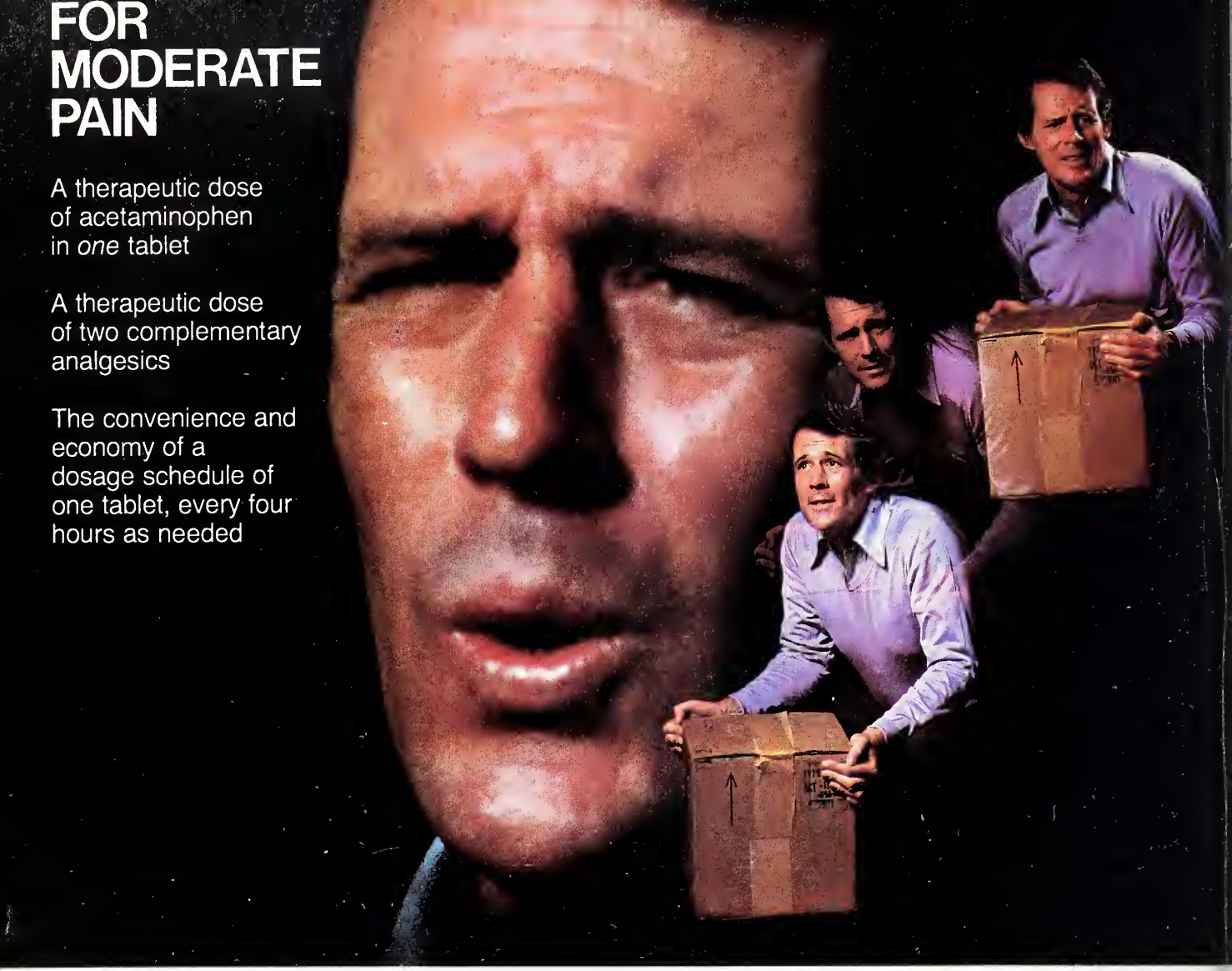
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FOR MODERATE PAIN

A therapeutic dose of acetaminophen in *one* tablet

A therapeutic dose of two complementary analgesics

The convenience and economy of a dosage schedule of one tablet, every four hours as needed



WHY NOT WYGESIC® C IV

(65 mg propoxyphene HCl and 650 mg acetaminophen) Wyeth

WYGESIC—Abbrevieted Summery
INDICATION: For the relief of mild-to-moderate pain.
CONTRAINDICATION: Hypersensitivity to propoxyphene or to acetaminophen
WARNINGS: CNS ADDITIVE EFFECTS AND OVERDOSAGE Propoxyphene in combination with alcohol, tranquilizers, sedative-hypnotics, or other CNS depressants has an additive depressant effect. Patients taking this drug should be advised of the additive effect and warned not to exceed the dosage recommended. Toxic effects and fatalities have occurred following overdoses of propoxyphene alone or in combination with other CNS depressants. Most of these patients had histories of emotional disturbances or suicidal ideation or attempts, as well as misuse of tranquilizers, alcohol, or other CNS-active drugs. Caution should be exercised in prescribing large amounts of propoxyphene for such patients (see **Menegement of Overdosege**).
DRUG DEPENDENCE: Propoxyphene can produce drug dependence characterized by psychic dependence and less frequently, physical dependence and tolerance. It will only partially suppress the withdrawal syndrome in individuals physically dependent on morphine or other narcotics. The abuse liability of propoxyphene is qualitatively similar to codeine's although quantitatively less, and propoxyphene should be prescribed with the same degree of caution appropriate to the use of codeine
USAGE IN AMBULATORY PATIENTS: Propoxyphene may impair the mental and or physical abilities required for potentially hazardous tasks, e.g. driving a car or operating machinery. Patients should be cautioned accordingly.
USAGE IN PREGNANCY: Sate use in pregnancy has not been established relative to possible adverse effects on fetal development INSTANCES OF WITHDRAWAL SYMPTOMS IN THE NEONATE HAVE BEEN REPORTED FOLLOWING USAGE DURING PREGNANCY Therefore, propoxyphene should not be used in pregnant women unless, in the judgement of the physician, the potential benefits outweigh the possible hazards.
USAGE IN CHILDREN: Propoxyphene is not recommended for children because documented clinical experience has been insufficient to establish safety and a suitable dosage regimen in the pediatric group.
PRECAUTIONS: Confusion, anxiety, and tremors have been reported in a few patients receiving propoxyphene concomitently with orphenadrine. The CNS depressant effect of propoxyphene may be additive with other CNS depressants, including alcohol.
ADVERSE REACTIONS: The most frequent adverse reactions are dizziness, sedation, nausea, and vomiting. These seem more prominent in ambulatory than in nonambutatory patients, some of these reactions may be alleviated if the patient lies down.
Other adverse reactions include constipation, abdominel pain, skin rashes, light-headedness, headache, weakness, euphoria, dysphoria, and minor visual disturbances. The chronic ingestion of propoxyphene in doses over 800 mg per day has caused toxic psychoses and convulsions. Cases of liver dysfunction have been reported.
DRUG INTERACTIONS: Propoxyphene in combination with alcohol, tranquilizers, sedative-hypnotics, and other CNS depressants has an additive depressant effect. Patients taking this drug should be advised of the additive effect end warned not to exceed the dosage recommended. (see **Warnings**) Confusion, anxiety, and tremors have been reported in a few patients receiving propoxyphene concomitently with orphenadrine.
MANAGEMENT OF OVERDOSAGE: SYMPTOMS
The menifestations of serious overdosage with propoxyphene are similar to those of narcotic overdosage and include respiratory depression (a decrease in respiratory rate and or tidal volume, Cheyne-Stokes respiration, cyanosis), extreme somnolence progressing to stupor or coma, pupillary constriction, and circulatory collapse. In addition to these characteristics, which are reversed by narcotic antagonists such as naloxone, there may be other effects. Overdoses of propoxyphene can cause delay of cardiac conduction as well as focal or generalized convulsions, a prominent feature in most cases of severe poisoning. Cardiac arrhythmias and pulmonary edema have occesionally been reported, and apnea, cardiac arrest, and death have occurred.
Symptoms of massive overdosage with acetaminophen may include nausea, vomiting, anorexia, and abdominal pain, beginning shortly after ingestion and lasting for 12 to 24 hours. However, early recognition may be difficult since early symptoms may be mild and nonspecific. Evidence of liver damage is usually delayed. After the initial symptoms, the patient may feel less ill; however, laboratory determinations are likely to show a rapid rise in liver enzymes and bilirubin. In case of serious hepatotoxicity, jaundice, coagulation defects, hypoglycemia, encephalopathy, coma, and death may follow. Renal failure due to tubular necrosis, and myocardiopathy, have also been reported.
Ingestion of 10 grams or more of acetaminophen may produce hepatotoxicity. A 13-gram dose has reportedly been fatal.
TREATMENT: Primary attention should be given to the reestablishment of adequate respiratory exchange through provision of a patent airway and institution of assisted or controlled ventilation. The narcotic antagonists, naloxone, nalorphine, and levallorphen, are specific antidotes against the respiratory depression produced by propoxyphene. An appropriate dose of one of these antagonists should be administered, preferably IV, simultaneously with efforts at respiratory resuscitation and the antagonist should be repeated as necessary until the patient's condition remains satisfactory. In addition to a narcotic antagonist, the patient may require careful titration with an anticonvulsant to control seizures. Analeptic drugs (e.g. caffeine or amphetamine) should not be used because of their tendency to precipitate convulsions.
Oxygen, IV fluids, vasopressors and other supportive measures should be used as indicated. Gastric lavage may be helpful. Activated charcoal can absorb a significant amount of ingested propoxyphene. Dialysis is of little value in poisoning by propoxyphene alone. Acetaminophen is rapidly absorbed, and efforts to remove the drug from the body should not be delayed. Copious gastric lavage and or induction of emesis may be indicated. Activated charcoal is probably ineffective unless administered almost immediately after acetaminophen ingestion. Neither forced diuresis nor hemodialysis appears to be effective in removing acetaminophen. Since acetaminophen in overdose may have an antidiuretic effect and may produce renal damage, administration of fluids should be carefully monitored to avoid overload. It has been reported that mercaptamine (cysteamine) or other thiol compounds may protect against liver damage if given soon after overdosage (8-10 hours). N-acetylcysteine is under investigation as a less toxic alternative to mercaptamine, which may cause anorexia, nausea, vomiting, and drowsiness. Appropriate literature should be consulted for further information. (JAMA 237:2406-2407, 1977)
Clinical and laboratory evidence of hepatotoxicity may be delayed up to one week. Acetaminophen plasma levels and half-life may be useful in assessing the likelihood of hepatotoxicity. Serial hepatic enzyme determinations are also recommended.

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Early Return to Work

The Virginia Occupational Medical Association has requested that Council approve a resolution, adopted earlier by the AMA House of Delegates, which would encourage physicians to advise their patients to return to work at the earliest date compatible with health and safety.

It was the consensus that most physicians are seeking to do what the resolution suggests and that further action would not appear necessary. Consequently, a motion by Dr. Burton that the matter be filed was seconded and adopted.

Boy Scout Jamboree

A National Boy Scout Jamboree will be held at Fort A. P. Hill from July 29-August 4, 1981. Twenty-eight thousand scouts will participate in this greatest of all scouting events. Approximately 200 physicians and an equal number of medical support personnel will operate 20 sub-camp medical centers and be supported by a special Army unit. Many of the volunteer physicians will be from other states and special licensing arrangements will undoubtedly be required. The national office of the Boy Scouts of America has asked the Society to cooperate by providing basic information concerning state emergency medical services and by directing it to proper contacts within the Department of Health, etc.

Dr. Nipe proposed that Scout officials be provided with complete and detailed information and also assurance that the Society will provide any and all assistance within its capability. Council agreed.

Vanguard Update

Dr. Kuykendall reported that Vanguard continues to be active. Among those things with which it is particularly concerned are appropriateness review, catastrophic health insurance, HMOs, etc. The pilot program for the Northern Virginia area is scheduled to begin in the next two or three weeks.

Dr. Kuykendall called attention to a recently completed Vanguard report on HMOs, prepared by Medical Service Consultants, Inc. The report is quite complete and copies can be obtained by contacting the Committee. It contains a wealth of information.

The Committee is making every effort to establish good and effective communications with both AMA and other state medical societies. Such communications will accomplish several objectives, one of which will be reducing to a minimum the duplication of effort which exists today over the nation. This could conceivably result in a budgetary savings to the Society.

Dr. Nipe reported that he had recently been contacted by interested parties in hospital administration concerning the advisability of seeking repeal of appropriateness review legislation. Those concerned are planning to seek the assistance of the State Chamber of Commerce, Virginia Hospital Association, The Medical Society of Virginia, etc. Any further developments will be reported to Council in June.

National Health Service Corps

Council was advised that the National Health Service Corps program has apparently undergone considerable change since its inception several years ago. There now exists a serious question concerning its purpose and objectives.

Dr. Stark expressed the hope that the matter could be referred to an appropriate committee for study and subsequent report to Council. Dr. Nipe stated that the matter has already been referred to the Committee on Rural Health and that every effort will be made to obtain the Committee's thoughts and recommendations by June 28.

Congressional Luncheon

Plans for the congressional luncheon are proceeding nicely and it appears that the entire Virginia delegation will attend. A meaningful agenda is being prepared and will soon be sent to all those expected to attend. The agenda is based upon replies from the questionnaire which was mailed earlier in the year to the presidents of all component societies.

There being no further business, the meeting was adjourned.

Robert I. Howard, Secretary

APPROVED:
George M. Nipe, MD, President

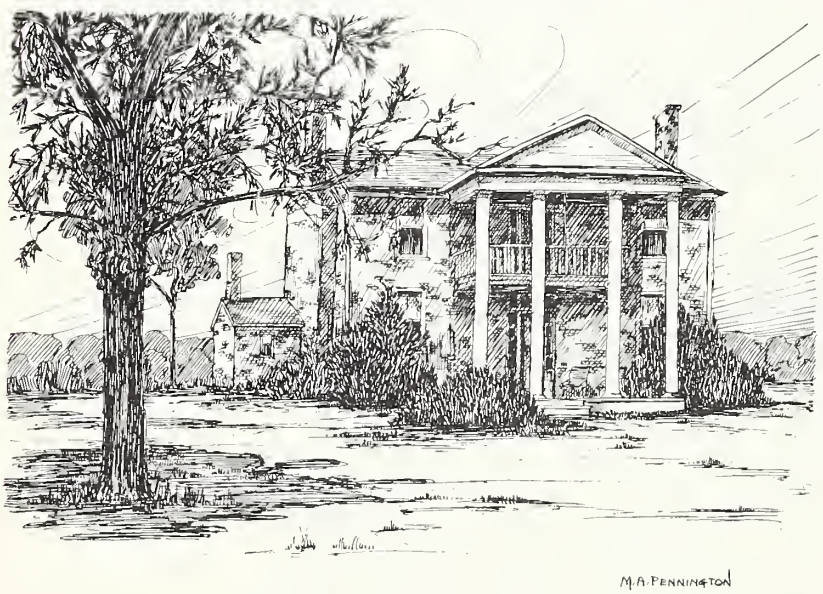
Legacies of a Virginia Patriarchy

THE Thomas Patteson patriarchy was a distinguished one in the early history of Virginia, as several fine old homes in Buckingham County attest today. On land granted by the King of England, Thomas Patteson built a house in the early 18th century, calling it "Mt. Pleasant". That dwelling was supplanted in about 1780 by the Mt. Pleasant shown on this page; it was built by Maj. David Patteson, grandson of Thomas. Still in superb condition, the house is of brick made from the red clay of nearby fields and is sited so that its four corners echo the four points of the compass. Mt. Pleasant is still in the Patteson family and is occupied by the Messrs. Jack and Prentiss Patteson, brothers and great-great-great-grandsons of Thomas Patteson. Jack Patteson is much admired in the area for his 59 years of service on the school board.



MT. PLEASANT (c. 1780)

A few miles north of Mt. Pleasant, near Glenmore, a grandson of Maj. David Patteson built a similar house, in 1800 or thereabouts, and gave it a similar name, "Mountain View", to honor its magnificent outlook on the Blue Ridge Mountains. Mountain View is of brick in Flemish bond stagger pattern. Its double entrance door, with sidelights and transom, is echoed by an identical door giving onto the balcony above. There is a wide hall, with graceful balusters on the stairway, and all the original mantels are intact. At one time none of the Pattesons needed this house, so the family used it to store wheat—but did so with great care, one assumes, for the beautiful old floors and wide wainscoting are in mint condition. This house is now owned by Mr. and Mrs. L. L. Miles.



MOUNTAIN VIEW (c. 1800)

Pen and ink drawings by M. A. Pennington, MD. Historical data from *The Courthouse Burned*— by M. A. Pennington and L. S. Scott.

VIRGINIA MEDICAL

EDITORIAL

Sleep Apnea

WITHIN recent years there has been a tremendous volume of research concerned with the neural regulation of respiration and respiratory muscle function in normal subjects and in disease states. Instruments and techniques first restricted to research laboratories are now available to neurologists, pulmonary physicians and others for the clinical investigation of respiratory problems in patients. As a result, there is a much better understanding of the irregular breathing patterns that occur in apparently healthy individuals and of abnormal physiology found in a number of diseases, including the sleep apnea syndrome and other respiratory disturbances during sleep, primary alveolar hypoventilation, motor disturbances of the diaphragm, the obesity hypoventilation syndrome, the sudden infant death syndrome and others. An example of the effect on current literature is the fact that the entire first issue of a new journal, *Clinics in Chest Medicine,* is taken up with articles on disturbances of respiratory control.

In this issue of VIRGINIA MEDICAL, Fairman and his associates from the Medical College of Virginia remind us that one of the conditions associated with abnormal breathing pattern, the sleep apnea syndrome, is not rare. In seven months they saw six patients with this syndrome. It is probably often overlooked. They also describe its manifestations and tests to confirm the diagnosis. It is central when it is due to lack of respiratory effort and obstructive when due to intermittent occlusion of the upper airway. The obstructive type is much more common. Six of their patients had the obstructive form, and one was mixed.

The syndrome should be suspected in an overweight middle-aged male who complains of daytime sleepiness. The urge to sleep may be very severe and interfere with ordinary activity. The spouse may describe excessively loud snoring and periods of no breathing lasting a minute or more, terminating with a struggle. It may be difficult to arouse the patient during the night. The respiratory abnormality may be unrecognized by the patient. Other important but less specific symptoms include depression, anxiety, intellectual impairment, impotence, sleep walking and morning headache. Examination may demonstrate obesity, hypertension, lethargy, edema, hypoxia, carbon dioxide retention and polycythemia. Chest x-ray, electrocardiogram and breathing tests may be normal. The clinical features are so characteristic that the diagnosis is almost certain before confirmatory testing.

Fairmen et al and others describe interesting studies that confirm the diagnosis and demonstrate that airway obstruction is responsibe for the symptoms. Measurement of airflow at the nose and mouth, arterial oxygen saturation and respiratory muscle activity by an esophageal ballon or by some other method

are very important. A simultaneous recording of the EEG, EKG and eye movements is also helpful. The demonstration of intrathoracic pressure changes or respiratory muscle activity even when there is no air movement proves that the apnea is due to airway obstruction.

Much is known about the cause of the obstruction. Guilleminault et al[1] observed the pharynx of individuals with sleep apnea while awake and while asleep by direct observation through a fiberoptic endoscope, and at the same time made EMG measurements of pharyngeal muscle activity. There is decreased activity and relaxation associated with total inspiratory invagination of the postero-lateral pharyngeal walls during the episodes of obstructive apnea. Remmers et al[2] found that there is a decrease in muslce activity of the tongue during sleep so that the tongue relaxes and falls back into the pharynx. If the size of the pharyngeal opening is already compromised by obesity or some other structural abnormality, the obstruction that Guilleminault et al[1] observed occurs. Chemical and other effects of apnea eventually arouse the patient, the tongue muscle contracts and the obstruction is relieved. Martin et al[3]observed that a decrease in central nervous system activity diminishes the respiratory drive with suppression of the major respiratory muscles before the onset of the airway obstruction and lack of an appropriate arousal mechanism prolongs the time of apnea. Their data suggest that central apnea and obstructive apnea may be very closely related.

Block et al[4] have demonstrated that episodes of apnea occur in healthy subjects while sleeping. Perhaps the sleep apnea syndrome is due to an exaggeration of this normal phenomenon. It could be the result of a tendency to pharyngeal obstruction caused by obesity or other factors, plus a failure of the reflexes that usually cause arousal whenever airway obstruction or the metablolic changes of hypoxia and CO2 retention occur.

It is interesting to speculate on the relationship between the obesity hypoventilation syndrome (Pickwickian syndrome) and the sleep apnea syndrome. I have just reread Dr. Sydney Burwell's[5] original description of a patient with the Pickwickian syndrome and Dickens' description of the fat boy Joe. Joe's inability to stay awake and his obesity are characteristic of the sleep apnea syndrome. Dr. Burwell's patient had great difficulty staying awake, he had twitchy movements when asleep, and his respiration was variable, with periods of apnea alternating with tachypnea. He was obese. The patients described by Dr. Burwell and by Dr. Fairman are quite similar. Dr. Burwell's patient was five pounds lighter but four inches shorter. It seems reasonable that the Pickwickian syndrome is a particularly severe form of sleep apnea. perhaps these individuals start out with the short periods of apnea that occur in healthy persons. As moderate obesity develops, obstructive apnea is added to the central respiratory depression. When massive obesity develops, hypoventilation extends to the periods between the apneic episodes, causing chronic hypoxia. This results in pulmonary hypertension, cor pulmonale and heart failure.

The Medical College of Virginia neurologists and pulmonary physicians have established a working relationship in a sleep laboratory. They have a group of patients for study. We hope that they will continue their interesting observations and provide us with a better understanding of the respiratory problems that occur during sleep and in obesity.

JOHN L. GUERRANT, MD

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Apologies to Doctor Harvey

The Editors regret a misspelling in the editorial, "The Heart Saga", in the May issue, pages 387–388. William Harvey's great work published in 1628 was, of course, "De Motu Cordis", not "De Motu Cordia".

VIRGINIA MEDICAL OBITUARY

James T. Jackson, MD

Dr. James T. Jackson, Leesburg, died April 12 in Loudoun Memorial Hospital at the age of 79. He had been in ill health for the past three years.

Dr. Jackson was graduated from Vanderbilt University, Nashville, Tennesee, and the Vanderbilt School of Medicine, then trained at Protestant Hospital, Nashville, and as chief resident in surgery at Garfield Hospital, Washington, DC. In 1937 he established private practice in Leesburg, maintaining it until he retired in 1973, and twice served as chief of staff of Loudoun Memorial Hospital. He had been a member of The Medical Society of Virginia for 43 years.

D. C. Booker, MD

Dr. Daniel Coleman Booker, Hopewell surgeon, died May 13 at John Randolph Hospital in Hopewell. He was 67.

Born in Richmond, Dr. Booker was graduated from the Medical College of Virginia School of Pharmacy in 1933 and from the MCV School of Medicine in 1937. He had practiced medicine in Hopewell since 1959.

Dr. Booker had been a member of the Medical Society of Virginia for 39 years and belonged also to the Southern Medical Association, the American College of Surgeons, the American Society of Abdominal Surgeons and the Association of Military Surgeons of the United States.

J. A. Ledogar, MD

Dr. Joseph A. Ledogar, family physician in Colonial Heights, died May 26 at the Medical College of Virginia Hospitals after being fatally injured in an auto accident south of Chester, Virginia. He was 56.

A graduate of the New York University College of Medicine, Dr. Ledogar had been a state medical examiner for Colonial Heights for ten years and was on the staff of the Petersburg General Hospital. He came to membership in The Medical Society of Virginia through the Southside Virginia Medical Society.

Memoir of Fred S. Booth 1931-1980

By Khalid J. Awan, MD

"Could you spare a few minutes tomorrow to discuss with me a few things before the Society meets next week?" With these words Dr. Fred S. Booth ended our telephone conversation on the day before his sudden and untimely death, at the age of 49, in the calm afternoon of February 23, 1980. That was typical of Fred: always concerned about the standards of medical care and the problems our profession faces today. His remarkable willingness to devote unusually large amounts of his time in the cause of medicine, and his tirelessness in the pursuit of solutions for the knotty problems were simply inspirational. The demise of Dr. Booth has robbed our profession of a sensitive and wise friend, and deprived the sick of a conscientious healer.

Fred S. Booth, MD, was born in Pulaski, Tennessee, and received his MD degree from the University of Tennessee College of Medicine in Memphis in 1959. He was a fellow of the American Academy of Family Practice and had practiced in Wise County, Virginia, for the past fifteen years. Dr. Booth was a past president of the Wise County Medical Society and the chief of staff at the Norton Community Hospital, Norton, Virginia. He was author of several medical papers; one of these, "Three Disorders Occur in Unusual Association," was published in VIRGINIA MEDICAL in 1978. I have the distinct honor of being Dr. Booth's coauthor on this paper. Tennis and hunting greatly elated Dr. Booth and were fervently pursued by him as hobbies.

In honor of his unremitting struggle and significant contribution to the realization of the present new facility for the Norton Community Hospital, its entrance hall is adorned by a plaque that displays Dr. Booth's name. Also, plans are underway to add a medical library, named after him, to the Norton Community Hospital. Anyone who is interested in making a contribution to this library is advised to contact the administrator of the Norton Community Hospital, Norton, Virginia.

WHO'S WHO IN VIRGINIA MEDICINE

Every president wants to make a lasting imprint on the group he leads, but few do. One of those few is **Dr. John A. Owen, Jr.,** *Charlottesville.* As Dr. Owen's presidency of the United States Pharmacopeial Convention neared its close early this year, a definitive reference book on drugs under the convention's imprimatur rolled off the presses. Titled *United States Pharmacopeia Dispensing Information* and five years in the making, its 790 pages tangibly mark Dr. Owen's five years as the Convention's leader.

The new book was designed as a "reasonable alternative", as Dr. Owen expresses it, to an expensive federal program of patient labeling. There are sections that physicians can duplicate and give to their patients, informing the patients in lay language about the drugs they have been ordered to take. For health professionals, corresponding sections delineate general dosages, side effects, and such precautions as drug interactions and diagnostic interference, to facilitate individualized discussions with patients.

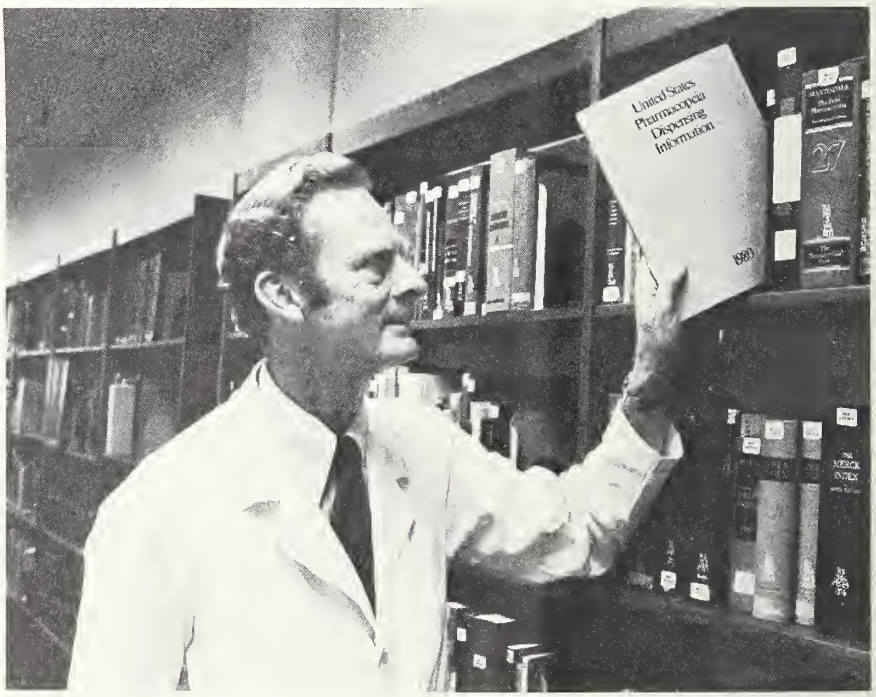
For example, aspirin. In the advice to patients for whom aspirin has been prescribed, they are asked to tell their doctors if they are pregnant, breast-feeding an infant, or taking other drugs; they are warned that aspirin may cause such side effects as stomach pain, nausea or vomiting, and blood in the stool. For physicians and pharmacists, the aspirin section explains that it should be used with caution if a patient is pregnant because aspirin crosses the placental barrier, or if a patient is breast-feeding because it can be excreted in breast milk. There are also warnings on the interactions of such drugs as alcohol and anticoagulants.

Just about every single-entry drug a doctor prescribes today in the ordinary run of practice is treated in the book, to a total of 365 drugs. To hammer out all of this information, 70 doctors and pharmacists labored long and hard. They comprised the Committee of Revision, elected at the same time that Dr. Owen was elected to the presidency. Like Dr. Owen and all other members of the Pharmacopeia, they were volunteers serving a long tradition, for the Pharmacopeia is a voluntary system that has been setting this country's drug standards for 160 years. The Food and Drug Administration enforces these standards, so the two agencies work together, but they are also energized by what Dr. Owen describes as "a healthy competition".

Professor of internal medicine at the University of Virginia, Dr. Owen is an accomplished writer; he has served on the Editorial Board of this journal and is currently editor-in-chief of *Hospital Formulary.* He holds the vice chairmanship of the National Council on Drugs and is a member of the Advisory Board to the Virginia Voluntary Formulary, the official guide to prescribing in Virginia. After delivering the presidential address at the Pharmacopeia's quinquennial meeting in April in Washington, he was elected to its board of trustees.

United States Pharmacopeia Dispensing Information may be ordered from Mack Publishing Company, 20th and Northampton Streets, Easton, Pennsylvania 18042. The price is $18.75, including postage, and all orders must be prepaid.

Dr. Robert W. Cantrell, *Charlottesville,* chairman of the Otolaryngology Department at the University of Virginia School of Medicine, has been elected a director of the American Board of Otolaryngology, one of the nation's 23 specialty boards, for a seven-year term of office.



A book marks his presidency: Dr. Owen. *Photograph by Bruce Dorrier.*

WHO'S WHO IN VIRGINIA MEDICINE

Yesterday's house call by horse and buggy has become today's island call by airplane for **Dr. Stephen Q. Rodgers,** *Nassawadox,* who since early in 1979 has been flying to Tangier Island in Chesapeake Bay to dispense medical care.

To the 1,000 people who live on Tangier, Dr. Rodgers' plane has the wings of an angel. They haven't had a resident physician for years, so whenever medical treatment has been needed, they've had to journey to the mainland, a costly addition to the price of an office visit.

Just how costly Dr. Rodgers learned when some of the islanders began coming to his office. The only plane service from Tangier Island to the mainland is by charter. The only boat service puts in at Crisfield, Maryland; from there a taxi had to be hired or a car rented to drive northward into Maryland or southward into Virginia to reach a doctor's office. To reach Dr. Rodgers' office, for example, this was a drive of more than 70 miles.

About the time the extent of this transport hardship dawned on Dr. Rodgers, he completed a course of flying lessons and earned his license to fly. Putting vocation and avocation together, he broached to his Tangier patients the idea of flying to the island once in a while for a one-day "clinic". The reception was uniformly ecstatic, and Dr. Rodgers wound up committing himself to a flight each month on a Thursday, the day he takes off from his regular practice. The islanders gave him the use of their medical center, a wood structure with examining rooms, laboratory, delivery room, nursery and other amenities; it was built years ago for a doctor of advanced age who came to live in Tangier but changed his mind when he married a young woman who yearned for livelier places.

At first Pediatrician Rodgers looked after adults as well as children, but recently Dr. David B. Nichols of *White Stone,* family practitioner and licensed pilot, put himself and his plane at the service of the mission, and now Dr. Rodgers concentrates on Tangier's youngsters.

Dr. Rodgers rents a Cessna 172 for his flights and takes with him an assistant, Mrs. Shirley Finney. Together they apply themselves to the needs of about two dozen children each visit. The medical problems are much the same as those encountered in mainland children—childhood illnesses, minor injuries, immunizations and checkups, care of the newborn. Fairly routine, as a pediatrics practice goes, but the islanders' response to a doctor who comes to them has been so joyous that Dr. Rodgers plans to increase his flights to twice monthly.



His plane has angel's wings: Dr. Rodgers. *Photograph by Shirley Finney.*

A 1970 graduate of the Oklahoma University School of Medicine, Dr. Rodgers took some of his training at Children's Hospital, Norfolk. It was then he discovered the beauties of Virginia's Eastern Shore and decided to practice there. He came to Medical Society of Virginia membership through the Northampton County Medical Society and is a member also of the Flying Physicians Association.

After 54 years as a "country doctor", **Dr. Edward W. Hickson** is retiring this year from his general practice in *Rustburg.* A 1926 graduate of the St. Louis University School of Medicine, Dr. Hickson interned in St. Louis, New York and Chicago before beginning his medical practice on a cargo and passenger ship that sailed out of New Orleans. He gave up seafaring to settle in Milan, Missouri, where he practiced for 17 years, and then in 1954 hung out his shingle on Route 24 in Rustburg.

VIRGINIA MEDICAL CLASSIFIED

Virginia Medical Classified insertions accepted at the discretion of the Editor. Rates: $10 per insertion for 50 words or less, 10¢ per word in excess of 50. Classified display available at $20 per 50 words. Copy due by the fifth of the month prior to month of publication. Send to the Managing Editor, 4205 Dover Road, Richmond VA 23221.

EXPERIENCED PSYCHIATRIST, board eligible, will consider any form of practice—solo, group, partnership—or purchase of psychiatric clinic or hospital. Please reply to VIRGINIA MEDICAL Box 37, 4205 Dover Road, Richmond VA 23221.

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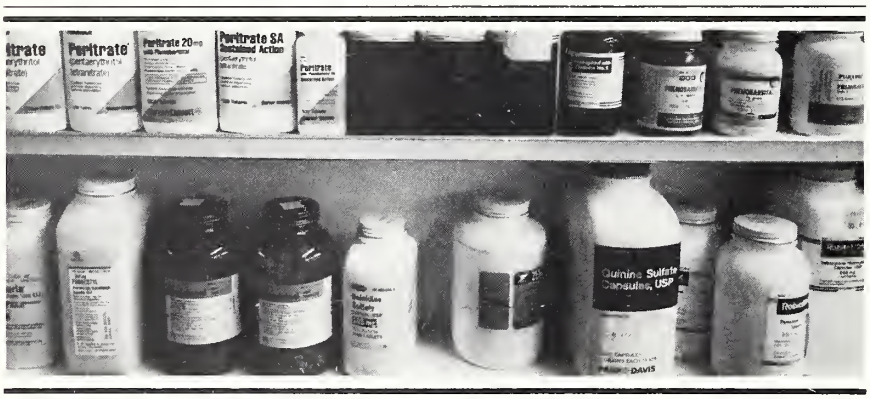
"Carve a Bigger Prescribing Role": Virginia Pharmacist

A Virginia physician sends a patient's diagnosis to the pharmacist. The pharmacist, not the physician, prescribes the drug treatment. Can you imagine that?

Ken Schafermeyer can. He caught the vision of it early this year when a resolution passed the House of Delegates of the American Pharmaceutical Association in convention assembled. "The pharmacist is the expert on drugs and drug therapy on the health care team and supports a prescribing role for the pharmacist, based on the specific diagnosis of a qualified health practitioner," the resolution stated.

As director of the Virginia Pharmaceutical Association, Pharmacist Schafermeyer attended that convention, heard that resolution, and came home eager to create prescribing avenues for Virginia pharmacists.

How to do it? The answer to that appears in a recent issue of the *Virginia Pharmacist*, in an article coauthored by Schafermeyer and Richard L. Kelly, 1980 graduate of the Medical College of Virginia School of Pharmacy.



"We need to make a change like this a little bit at a time," they advise their fellow pharmacists, "like a sculptor chipping away at the granite of the health care system."

In search of the place to start, the authors look at the American Pharmaceutical Association's proposed reclassification of medicinal products into four categories: 1) those dispensed on prescription order and renewable at the prescriber's discretion only; 2) those dispensed by the pharmacist at the request of the patient (Schedule V drugs); 3) those dispensed directly to the patient over the counter; and 4) those dispensed initially on the order of the physician but renewable at the pharmacist's discretion.

The first three of these proposed categories are legally available in Virginia, but the fourth, the one giving discretionary powers to pharmacists, is not. To bring it into being is the "small, easily accessible step in the right direction", say the authors. "Let's start sculpturing now."

After all, they point out, the physician's nurse approves refills for the physician over the phone. "Would not the pharmacist, with expert drug knowledge and easy accessibility to the patient, be the more logical health care provider to approve these refills?"

These prescription drugs are offered by the authors as appropriate for the pharmacist to renew at his discretion: analgesics, antihistamines, bronchial dilators, cough and cold [medications], antiarthritics, antihypertensives, and antidiabetics. But don't start out with "dozens of drugs," the authors warn. Take it slowly, "one chip at a time."

Of course, they add, not all pharmacists have the knowledge and ability to do this refill prescribing. "A certification test would be advisable". However, "any pharmacist could have the knowledge to perform these tasks," given preparation via "Pharm D curriculum, continuing education, or our present pharmacy school curriculum."

"If we don't take charge of our own destiny," the two pharmacists

AS BOREAU

conclude, "then we risk losing our rightful place in the health care system to nurse practitioners or physicians' assistants, who, armed with patient package inserts, will continue to push for the right to prescribe drugs and consult OUR [authors' caps] patients."

Lawsuits Seek Millions from MSV

After six days of trial, The Medical Society of Virginia and 15 codefendants last month obtained a directed verdict dismissing a multimillion dollar suit brought by Dr. H. Barry Jacobs, Reston, Virginia, surgeon. Other defendants included the Fairfax County, Alexandria and Prince William County Medical Societies, the American Medical Association, two insurance companies and four hospitals. Dr. Jacobs gave notice of an appeal.

Site of the trial was the Federal District Court in Alexandria, Judge Oren Lewis presiding. This is the same court in which Dr. Jacobs was convicted in 1977 of using the mails to defraud Medicare and Medicaid, resulting in 10 months imprisonment.

Dr. Jacobs, who served as his own counsel, called 50 witnesses, including himself, and submitted hundreds of pages of exhibits. His antitrust action alleged that the defendants, in response to his professional advertising, conspired to eliminate him as a practicing surgeon and injure him as a medical entrepreneur, causing him to lose memberships, privileges and malpractice insurance.

Separately, Dr. Jacobs also has filed a libel suit seeking $12 million damages for alleged defamation of character, naming as defendants The Medical Society of Virginia and the Fairfax County Medical Society and its executive director, whose letter to a New York medical society provoked the suit.

Council Considers Casualties, Comfort

The first wave of mandatory CME reports that washed over Medical Society of Virginia headquarters this year left 126 casualties in its wake. That was the result given to Council at its most recent meeting by Dr. George E. Broman, chairman of the Membership Committee.

The 126 are those doctors who did not file CME credits and are therefore liable for loss of MSV membership. That's why Dr. Broman was the one submitting the figures; the Membership Committee is charged with handling adjudication of the recalcitrants.

Truth to tell, the response to this first call was astonishingly cooperative. Of the 2,130 members obligated to report (surnames beginning A through G), 2,004 did so. That's a thwacking 94%.

Still, who wants to lose *any* members? Certainly not the Membership Committee, which sees its function as promoting membership rather than demoting it. So, Dr. Broman told the councilors, he and his committee will Study The Situation. Requested exemptions will be viewed with good will. Extensions will be considered. A certified mailing will go out in a last effort to bring the lambs into the fold. And before anyone is dropped, the entire CME program will be reviewed.

Council fervently endorsed Dr. Broman's salvage proposals.

At the same Council meeting, MSV President George M. Nipe offered a more comfortable timetable for The Medical Society of Virginia's annual meetings. The agenda would open with the House of Delegates' first meeting on Wednesday evening instead of Thursday afternoon, and all other procedures would be advanced accordingly. This would permit more time for reference committee deliberations and an expansion of the scientific program.

Great idea, Council told Dr. Nipe, and passed a motion to inaugurate the timetable at the 1981 meeting in Norfolk.

Virginia Boards Eye Radiography

Both the Board of Health and the Board of Medicine in Virginia are casting critical eyes at radiological instruments and who uses them.

At a recent public hearing on CT scanners, the Board of Health drew mixed reaction when it proposed that only radiologists be allowed to use the scanners. Neurologists in

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Hurry! hurry! hurry!
to make your hotel reservations for the 133rd Annual Meeting of The Medical Society of Virginia, Williamsburg Conference Center, November 6-9, 1980.

A pool of rooms is being held by Colonial Williamsburg's hotel division for Medical Society of Virginia members and friends who plan to attend the 1980 Annual Meeting. Here for your convenience is a reservation blank. Stake out your accommodations NOW!

- Reservations should be made no later than October 6, 1980. All unreserved rooms are subject to release on that date.
- Each reservation must be accompanied by a $35 deposit per room.
- Hotels will make every effort to take care of early arrivals, but some rooms may not be available until mid-afternoon due to varying checkout hours.

- For the first time, the scientific program will offer 10 Category I credits (the total annual Category I requirement) in a new 3-day format occurring Friday afternoon, Saturday morning and Sunday morning (November 7, 8 and 9).
- The exhibit hall will be open all day Friday, November 7, and Saturday morning, November 8.
- Complete program will be bound into VIRGINIA MEDICAL's October issue.

Make check payable to Colonial Williamsburg Foundation.
Mail reservation to Group Reservations Manager, Drawer B, Williamsburg, Virginia 23185.

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the audience observed that they and neurosurgeons are trained in head scanning and should be allowed to perform them.

But uniform approval greeted the Board of Health's proposed new guidelines governing the approval of CT scanners in hospitals, which were interpreted as making certificate-of-needs for the instruments easier to obtain.

Radiation safety is the Board of Medicine's concern, and at a recent meeting it authorized the development of new rules and regulations for regular inspection of all radiation equipment in Virginia and certification of all operators of that equipment through a course of radiation.

The Board of Medicine's action answers an editorial in VIRGINIA MEDICAL's February 1979 issue titled "Patient Exposure to X-rays: Whose Responsibility?" The authors, Dr. Suresh K. Agarwal and Dr. Theodore E. Keats of the University of Virginia's Department of Radiology, described their institution's comprehensive safety radiation program and asked that similar oversight be instituted by federal and state agencies.



Greetings from the Gov: The hospitable couple at left above are Mr. and Mrs. John N. Dalton, formerly of Radford, Virginia, who are shown welcoming some visitors to the Daltons' present home in Richmond, the Governor's Mansion. The visitors are Medical Society of Virginia members who belong also to the "PAC 250", and the chairman of the Virginia Political Action Committee, Dr. W. Leonard Weyl, Arlington, is shown leading the way through the mansion's doorway. Behind him is Mrs. H. Alan Bigley, Petersburg, followed by Dr. Bigley. After them came 90 more physicians and wives, each greeted by the Governor and Mrs. Dalton. After gathering in the gubernatorial garden, everyone trooped through the house on a sightseeing tour, including the family's personal quarters, and then, in the mansion's dining room, tied into the Smithfield ham and crabmeat concoction that anchored a buffet lunch. This was the second PAC 250 gala this year; the first was the luncheon at Medical Society of Virginia headquarters reported in VIRGINIA MEDICAL's June issue (Shires CL. For Virginia physicians, political prescriptions. Va Med 107:426-241, 1980).

State Hospital No Liability Shelter

Virginia's state-operated hospitals do not offer immunity from malpractice suits to the physicians who practice in them. That was the decision of the Virginia Supreme Court in an opinion released this summer. The ruling came in two cases in which patients sued physicians at the University of Virginia School of Medicine; it overturned a previous decision by an Albemarle County circuit judge who had granted the doctors immunity.

Some state officials—the governor and judges, for instance—are immune from suits in the performance of their duties because "they are required by the constitution and by general law to exercise broad discretionary powers, often involving both the determination and implementation of state policy", the opinion observed, but "a physician who fails to use reasonable care in the treatment of a patient acts at his own risk and is not entitled to invoke the doctrine of sovereign immunity."

Rest in Peace

Four years ago the South Dakota State Medical Association enacted a bylaw making continuing medical education mandatory for its members. This year the bylaw was rescinded. CME should be encouraged but not required, the Association's House of Delegates decided after four years of experience.

You're Invited

Have you information for these columns? The News Bureau would be delighted to have it. Call (804) 353-2721 and ask for Mrs. Ann Gray or write to her at 4205 Dover Road, Richmond VA 23221.

Form **1040** Department of the Treasury—Internal Revenue Service **U.S. Individual Income Tax Return** **1979**

For Privacy Act Notice, see page 3 of Instructions | For the year January 1–December 31, 1979, or other tax year beginning , 1979, ending , 19

Use IRS label. Otherwise, please print or type.

Your first name and initial (if joint return, also give spouse's name and initial) | Last name | Your social security number

Present home address (Number and

City, town or post office, State and ZIP code

Spouse's social security no.

Spouse's occupation ▶

Presidential Election Campaign Fund

Filing Status

Check only one box.

4 Head of household. (See page 7 of Instructions.) If qualifying person is your unmarried child, enter child's

page 7 of Instructions.)

Exemptions

Always check the box labeled Yourself. Check other boxes if they apply.

b ☐ Spouse ☐ 65 or over ☐ Blind

Enter number of boxes checked on 6a and b ▶

c First names of your dependent children who lived with you ▶

Enter number of children listed ▶

d Other dependents: (1) Name	(2) Relationship	(3) Number of months lived in your home	(4) Did dependent have income of $1,000 or more?	(5) Did you provide more than one-half of dependent's support?

Enter number of other dependents ▶

Add numbers entered in boxes above ▶

Income

Please attach Copy B of your Forms W–2 here.

If you do not have a W–2, see page 5 of Instructions.

7	Total		
8	Wages, salaries, tips, etc.	8	
9	Interest income (attach Schedule B if over $400)	9	
10a	Dividend		
c	Subtract line 10b from line 10a	10c	
11	State and local income tax refunds (does not apply unless refund is for	11	
12	Alimony received	12	
13	Business	13	
14	Capital (attach Schedule D)	14	
15	Taxable part of capital gain distributions not reported on Schedule D (see page 10 of Instructions)	15	
16	Supplemental gains or (losses) (attach Form 4797)	16	
17	Fully taxable pensions and annuities not reported on Schedule E	17	
18	Pensions, annuities, rents, royalties, partnerships, estates or trusts, etc. (attach Schedule E)	18	
19	Farm income or (loss) (attach Schedule F)	19	
20a	Unemployment compensation. Total amount received		
b	Taxable part, if any, from worksheet on page 10 of Instructions	20b	
21	Other income (state nature and source—see page 10 of Instructions) ▶	21	
22	Total income. Add amounts in column for lines 8 through 21 ▶	22	

Please attach check or money order here.

Adjustments to Income

23	Moving expense (attach Form 3903 or 3903F)	23	
24	Employee business expenses (attach Form 2106)	24	
25	Payments to an IRA (see page 11 of Instructions)	25	
26	Payments to a Keogh (H.R. 10) plan	26	
27	Interest penalty on early withdrawal of savings	27	
28	Alimony paid (see page 11 of Instructions)	28	
29	Disability income exclusion (attach Form 2440)	29	
30	Total adjustments. Add lines 23 through 29 ▶	30	
31	Adjusted gross income. Subtract line 30 from line 22. If this line is less than $10,000, see page 2 of Instructions. If you want IRS to figure your tax, see page 4		

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EQUAGESIC® ℂ

(meprobamate and ethoheptazine citrate with aspirin) Wyeth

EQUAGESIC—Abbreviated Summary

***INDICATIONS:** Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the indications as follows:
"Possibly" effective: for the treatment of pain accompanied by tension and/or anxiety in patients with musculoskeletal disease or tension headache.
Final classification of the less-than-effective indications requires further investigation.
The effectiveness of Equagesic in long-term use, i.e. more than four months, has not been assessed by systematic clinical studies. The physician should periodically reassess usefulness of the drug for the individual patient.

CONTRAINDICATIONS: Equagesic should not be given to individuals with a history of sensitivity or severe intolerance to aspirin, meprobamate, or ethoheptazine citrate

WARNINGS: Careful supervision of dose and amounts prescribed for patients is advised, especially with those patients with known propensity for taking excessive quantities of drugs. Excessive and prolonged use in susceptible persons, e.g., alcoholics, former addicts, and other severe psychoneurotics, has been reported to result in dependence on or habituation to the drug. Where excessive dosage has continued for weeks or months, dosage should be reduced gradually rather than abruptly stopped, since withdrawal of a "crutch" may precipitate withdrawal reaction of greater proportions than that for which the drug was originally prescribed. Abrupt discontinuance of doses in excess of the recommended dose has resulted in some cases in the occurrence of epileptiform seizures.
Special care should be taken to warn patients taking meprobamate that tolerance to alcohol may be lowered with resultant slowing of reaction time and impairment of judgement and coordination.
USAGE IN PREGNANCY AND LACTATION: An increased risk of congenital malformations associated with the use of minor tranquilizers (meprobamate, chlordiazepoxide, and diazepam) during the first trimester of pregnancy has been suggested in several studies. Because use of these drugs is rarely a matter of urgency, their use during this period should almost always be avoided. The possibility that a woman of child-bearing potential may be pregnant at the time of institution of therapy should be considered. Patients should be advised that if they become pregnant during therapy or intend to become pregnant they should communicate with their physicians about the desirability of discontinuing the drug.
Meprobamate passes the placental barrier. It is present both in umbilical-cord blood at or near maternal plasma levels and in breast milk of lactating mothers at concentrations two to four times that of maternal plasma. When use of meprobamate is contemplated in breast-feeding patients, the drug's higher concentrations in breast milk as compared to maternal plasma levels should be considered.
Preparations containing aspirin should be kept out of the reach of children. Equagesic is not recommended for patients 12 years of age and under.
PRECAUTIONS: Should drowsiness, ataxia, or visual disturbance occur, the dose should be reduced. If symptoms continue, patients should not operate a motor vehicle or any dangerous machinery
Suicidal attempts with meprobamate have resulted in coma, shock, vasomotor and respiratory collapse, and anuria. Very few suicidal attempts were fatal, although some patients ingested very large amounts of the drug (20 to 40 gm). These doses are much greater than recommended. The drug should be given cautiously, and in small amounts, to patients who have suicidal tendencies. In cases where excessive doses have been taken, sleep ensues rapidly and blood pressure, pulse, and respiratory rates are reduced to basal levels. Hyperventilation has been reported occasionally. Any drug remaining in the stomach should be removed and symptomatic treatment given. Should respiration become very shallow and slow, CNS stimulants, e.g., caffeine, Metrazol, or amphetamine, may be cautiously administered. If severe hypotension develops, pressor amines should be used parenterally to restore blood pressure to normal levels.
ADVERSE REACTIONS: A small percentage of patients may experience nausea with or without vomiting and epigastric distress. Dizziness occurs rarely when meprobamate and ethoheptazine citrate with aspirin is administered in recommended dosage. The meprobamate may cause drowsiness but, as a rule, this disappears as therapy is continued. Should drowsiness persist and be associated with ataxia, this symptom can usually be controlled by decreasing the dose, but occasionally it may be desirable to administer central stimulants such as amphetamine or mephentermine sulfate concomitantly to control drowsiness.
A clearly related side effect to the administration of meprobamate is the rare occurrence of allergic or idiosyncratic reactions. This response develops, as a rule, in patients who have had only 1-4 doses of meprobamate and have not had a previous contact with the drug. Previous history of allergy may or may not be related to the incidence of reactions
Mild reactions are characterized by an itchy urticarial or erythematous, maculopapular rash which may be generalized or confined to the groin. Acute nonthrombocytopenic purpura with cutaneous petechiae, ecchymoses, peripheral edema, and fever have also been reported.
More severe cases, observed only very rarely, may also have other allergic responses, including fever, fainting spells, angioneurotic edema, bronchial spasms, hypotensive crises (1 fatal case), anaphylaxis, stomatitis and proctitis (1 case), and hyperthermia. Treatment should be symptomatic such as administration of epinephrine, antihistamine, and possibly hydrocortisone. Meprobamate should be stopped, and reinstitution of therapy should not be attempted
Rare cases have been reported where patients receiving meprobamate suffered from aplastic anemia (1 fatal case), thrombocytopenic purpura, agranulocytosis, and hemolytic anemia. In nearly every instance reported, other toxic agents known to have caused these conditions have been associated with meprobamate. A few cases of leukopenia during continuous administration of meprobamate are reported; most of these returned to normal without discontinuation of the drug.
Impairment of accommodation and visual acuity has been reported rarely.
OVERDOSE: Two instances of accidental or intentional significant overdosage with ethoheptazine citrate combined with aspirin have been reported. These were accompanied by symptoms of CNS depression, including drowsiness and light-headedness, with uneventful recovery. However, on the basis of pharmacological data, it may be anticipated that CNS stimulation could occur. Other anticipated symptoms would include nausea and vomiting. Appropriate therapy of signs and symptoms as they appear is the only recommendation possible at this time. Overdosage with ethoheptazine combined with aspirin would probably produce the usual symptoms and signs of salicylate intoxication. Observation and treatment should include induced vomiting or gastric lavage, specific parenteral electrolyte therapy for ketoacidosis and dehydration, watching for evidence of hemorrhagic manifestations due to hypoprothrombinemia which, if it occurs, usually requires whole-blood transfusions
DESCRIPTION: Each Equagesic tablet contains 150 mg meprobamate, 75 mg ethoheptazine citrate and 250 mg aspirin

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*This drug has been evaluated as possibly effective for this indication.

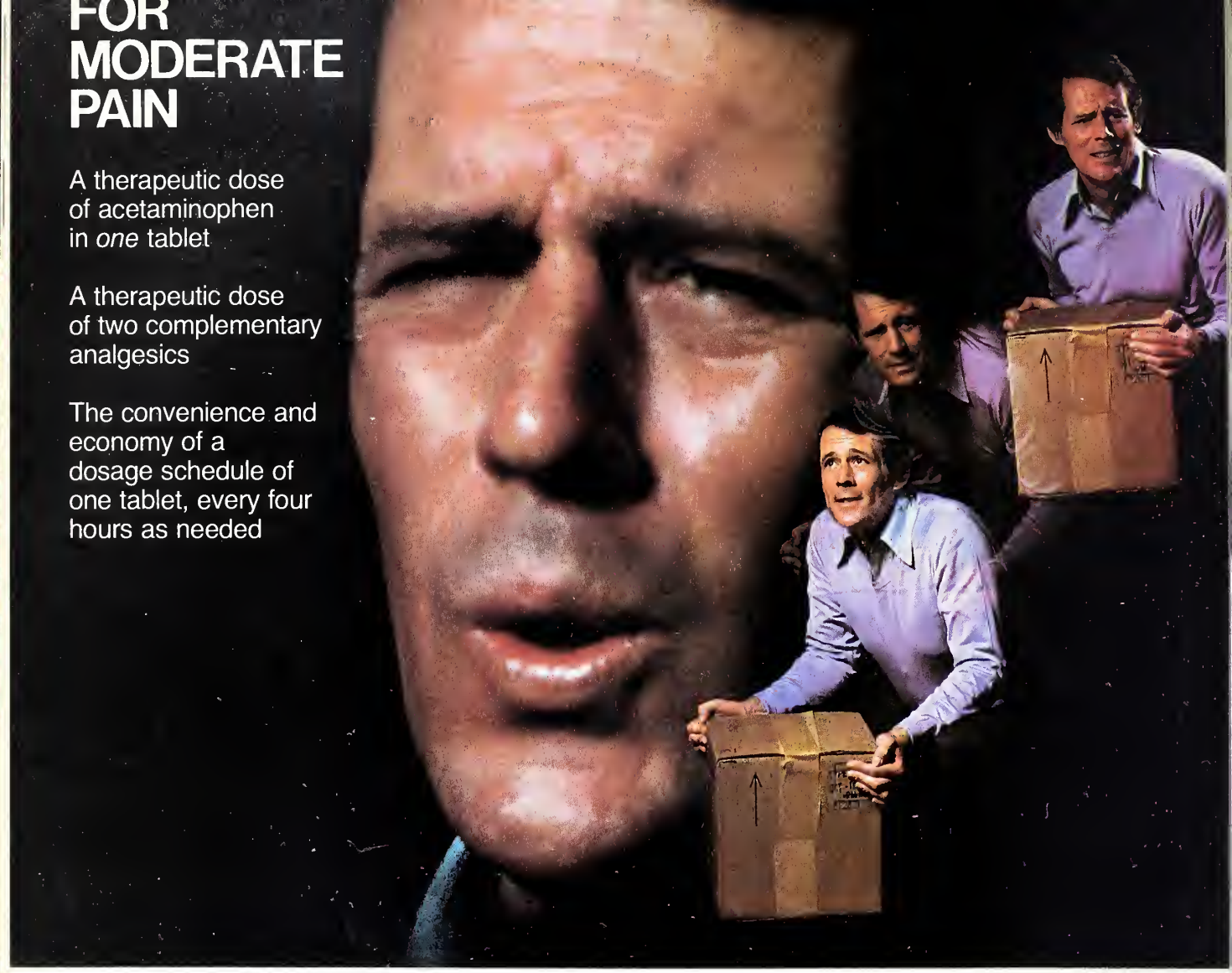
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FOR MODERATE PAIN

A therapeutic dose of acetaminophen in *one* tablet

A therapeutic dose of two complementary analgesics

The convenience and economy of a dosage schedule of one tablet, every four hours as needed



WHY NOT WYGESIC® C IV

(65 mg propoxyphene HCl and 650 mg acetaminophen) Wyeth

WYGESIC—Abbreviated Summary

INDICATION: For the relief of mild-to-moderate pain.

CONTRAINDICATION: Hypersensitivity to propoxyphene or to acetaminophen.

WARNINGS: CNS ADDITIVE EFFECTS AND OVERDOSAGE Propoxyphene in combination with alcohol, tranquilizers, sedative-hypnotics, or other CNS depressants has an additive depressant effect. Patients taking this drug should be advised of the additive effect and warned not to exceed the dosage recommended. Toxic effects and fatalities have occurred following overdoses of propoxyphene alone or in combination with other CNS depressants. Most of these patients had histories of emotional disturbances or suicidal ideation or attempts, as well as misuse of tranquilizers, alcohol, or other CNS-active drugs. Caution should be exercised in prescribing large amounts of propoxyphene for such patients (see **Management of Overdosage**).

DRUG DEPENDENCE: Propoxyphene can produce drug dependence characterized by psychic dependence and less frequently, physical dependence and tolerance. It will only partially suppress the withdrawal syndrome in individuals physically dependent on morphine or other narcotics. The abuse liability of propoxyphene is qualitatively similar to codeine's although quantitatively less, and propoxyphene should be prescribed with the same degree of caution appropriate to the use of codeine.

USAGE IN AMBULATORY PATIENTS: Propoxyphene may impair the mental and/or physical abilities required for potentially hazardous tasks, e g driving a car or operating machinery. Patients should be cautioned accordingly.

USAGE IN PREGNANCY: Safe use in pregnancy has not been established relative to possible adverse effects on fetal development. INSTANCES OF WITHDRAWAL SYMPTOMS IN THE NEONATE HAVE BEEN REPORTED FOLLOWING USAGE DURING PREGNANCY. Therefore, propoxyphene should not be used in pregnant women unless, in the judgement of the physician, the potential benefits outweigh the possible hazards.

USAGE IN CHILDREN: Propoxyphene is not recommended for children because documented clinical experience has been insufficient to establish safety and a suitable dosage regimen in the pediatric group.

PRECAUTIONS: Confusion, anxiety, and tremors have been reported in a few patients receiving propoxyphene concomitantly with orphenadrine. The CNS depressant effect of propoxyphene may be additive with other CNS depressants, including alcohol.

ADVERSE REACTIONS: The most frequent adverse reactions are dizziness, sedation, nausea, and vomiting. These seem more prominent in ambulatory than in nonambulatory patients; some of these reactions may be alleviated if the patient lies down.

Other adverse reactions include constipation, abdominal pain, skin rashes, light-headedness, headache, weakness, euphoria, dysphoria, and minor visual disturbances. The chronic ingestion of propoxyphene in doses over 800 mg per day has caused toxic psychoses and convulsions. Cases of liver dysfunction have been reported.

DRUG INTERACTIONS: Propoxyphene in combination with alcohol, tranquilizers, sedative-hypnotics, and other CNS depressants has an additive depressant effect. Patients taking this drug should be advised of the additive effect and warned not to exceed the dosage recommended. (see **Warnings**) Confusion, anxiety, and tremors have been reported in a few patients receiving propoxyphene concomitantly with orphenadrine.

MANAGEMENT OF OVERDOSAGE: SYMPTOMS The manifestations of serious overdosage with propoxyphene are similar to those of narcotic overdosage and include respiratory depression (a decrease in respiratory rate and/or tidal volume, Cheyne-Stokes respiration, cyanosis), extreme somnolence progressing to stupor or coma, pupillary constriction, and circulatory collapse. In addition to these characteristics, which are reversed by narcotic antagonists such as naloxone, there may be other effects. Overdoses of propoxyphene can cause delay of cardiac conduction as well as focal or generalized convulsions, a prominent feature in most cases of severe poisoning. Cardiac arrhythmias and pulmonary edema have occasionally been reported, and apnea, cardiac arrest, and death have occurred.

Symptoms of massive overdosage with acetaminophen may include nausea, vomiting, anorexia, and abdominal pain, beginning shortly after ingestion and lasting for 12 to 24 hours. However, early recognition may be difficult since early symptoms may be mild and nonspecific. Evidence of liver damage is usually delayed. After the initial symptoms, the patient may feel less ill; however, laboratory determinations are likely to show a rapid rise in liver enzymes and bilirubin. In case of serious hepatotoxicity, jaundice, coagulation defects, hypoglycemia, encephalopathy, coma, and death may follow. Renal failure due to tubular necrosis, and myocardiopathy, have also been reported.

Ingestion of 10 grams or more of acetaminophen may produce hepatotoxicity. A 13-gram dose has reportedly been fatal.

TREATMENT: Primary attention should be given to the reestablishment of adequate respiratory exchange through provision of a patent airway and institution of assisted or controlled ventilation. The narcotic antagonists, naloxone, nalorphine, and levallorphan, are specific antidotes against the respiratory depression produced by propoxyphene. An appropriate dose of one of these antagonists should be administered, preferably IV, simultaneously with efforts at respiratory resuscitation and the antagonist should be repeated as necessary until the patient's condition remains satisfactory. In addition to a narcotic antagonist, the patient may require careful titration with an anticonvulsant to control seizures. Analeptic drugs (e.g. caffeine or amphetamine) should not be used because of their tendency to precipitate convulsions.

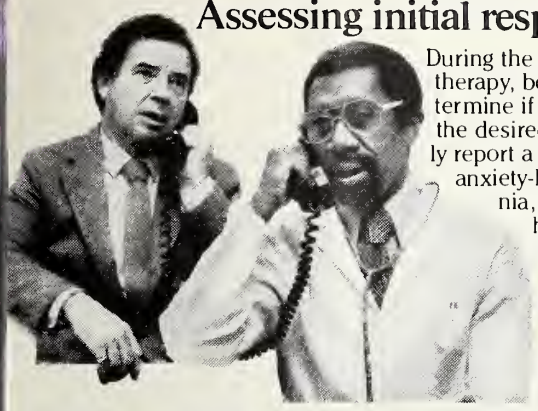
Oxygen, IV fluids, vasopressors and other supportive measures should be used as indicated. Gastric lavage may be helpful. Activated charcoal can absorb a significant amount of ingested propoxyphene. Dialysis is of little value in poisoning by propoxyphene alone. Acetaminophen is rapidly absorbed, and efforts to remove the drug from the body should not be delayed. Copious gastric lavage and/or induction of emesis may be indicated. Activated charcoal is probably ineffective unless administered almost immediately after acetaminophen ingestion. Neither forced diuresis nor hemodialysis appears to be effective in removing acetaminophen. Since acetaminophen in overdose may have an antidiuretic effect and may produce renal damage, administration of fluids should be carefully monitored to avoid overload. It has been reported that mercaptamine (cysteamine) or other thiol compounds may protect against liver damage if given soon after overdosage (8-10 hours). **N**-acetylcysteine is under investigation as a less toxic alternative to mercaptamine, which may cause anorexia, nausea, vomiting, and drowsiness. Appropriate literature should be consulted for further information. (JAMA 237:2406-2407, 1977)

Clinical and laboratory evidence of hepatotoxicity may be delayed up to one week. Acetaminophen plasma levels and half-life may be useful in assessing the likelihood of hepatotoxicity. Serial hepatic enzyme determinations are also recommended.

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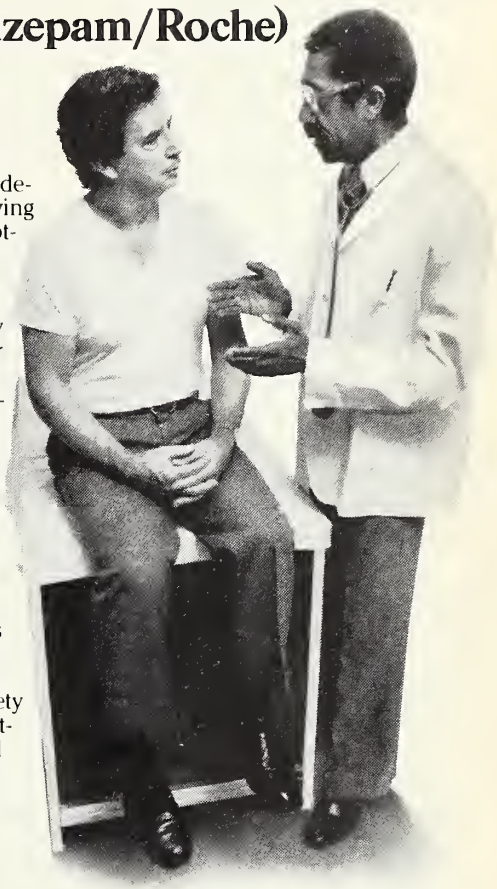
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Monitoring patient response to Valium® (diazepam/Roche)

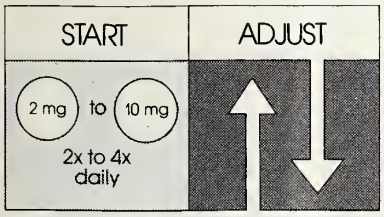


Assessing initial response to therapy

During the first follow-up visit after initiating therapy, both physician and patient should determine if Valium (diazepam/Roche) is having the desired effect. Most patients will promptly report a feeling of relaxation and relief of anxiety-linked symptoms such as insomnia, headaches, palpitations and hyperventilation. You will probably observe that the patient is calmer and more relaxed. If, however, patient response does not measure up to expectations, a reevaluation of the patient's profile with modification of the dosage regimen should be considered.



Making dosage adjustments



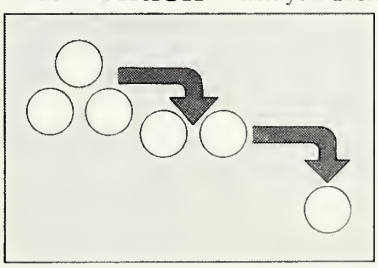
With any psychoactive medication it is good medical practice to initiate therapy at base dosage levels and titrate to the patient's needs. With Valium, experience has shown that 5 mg t.i.d. is usually sufficient although some patients with severe or persistent anxiety may require higher dosages initially. In geriatric or debilitated patients, the recommended dosage is 2 to 2½ mg once or twice daily. When anxiety fluctuates, as is common with most patients, the dosage may be adjusted as needed during the course of therapy; three strengths in scored tablets give you unmatched flexibility and simplicity in individualizing dosage.

Evaluating progress toward therapeutic goals

SET GOALS						
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

At the beginning of therapy it is now common practice for both physician and patient to establish treatment goals and to estimate the amount of time needed to achieve them. Then the patient knows what to expect and when to expect it. Some physicians find that compiling a checklist of presenting symptoms and complaints is useful for assessing the patient's response from visit to visit. In this way, progress toward attainment of the therapeutic goal is reviewed at regular intervals. As patients feel their symptoms abate and begin to develop insight into the sources of their anxiety and psychic tension, the checklist can be expected to dwindle.

Discontinuing pharmacologic intervention



When you decide to discontinue therapy, tapering dosage is good medical practice. Although rarely necessary after short-term treatment with Valium, gradual dosage reduction is advisable for patients who have been on extended therapy. This gradual discontinuance should preclude either recurrence of pretreatment symptoms or development of untoward side effects. Symptoms of withdrawal have almost always been associated with abrupt discontinuance of therapy at higher dosages taken continuously over long periods of time.

2-mg, 5-mg, 10-mg scored tablets

Valium® (IV)
diazepam/Roche

An Important Adjunct to Your Treatment Program for Excessive Anxiety

ROCHE®

See the following page for a summary of product information.

Valium® (diazepam/Roche) ℞

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety associated with anxiety disorders, transient situational disturbances and functional or organic disorders, psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology; spasticity caused by upper motor neuron disorders; athetosis, stiff-man syndrome; convulsive disorders (not for sole therapy).
The effectiveness of Valium (diazepam/Roche) in long-term use, that is, more than 4 months, has not been assessed by systematic clinical studies. The physician should periodically reassess the usefulness of the drug for the individual patient.

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms similar to those with barbiturates and alcohol have been observed with abrupt discontinuation, usually limited to extended use and excessive doses. Infrequently, milder withdrawal symptoms have been reported following abrupt discontinuation of benzodiazepines after continuous use, generally at higher therapeutic levels, for at least several months. After extended therapy, gradually taper dosage. Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence.

***Usage in Pregnancy:* Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported, should these occur, discontinue drug. Isolated reports of neutropenia, jaundice, periodic blood counts and liver function tests advisable during long-term therapy.

Dosage: Individualize for maximum beneficial effect. *Adults:* Tension, anxiety and psychoneurotic states, 2 to 10 mg b.i.d. to q.i.d., alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; adjunctively in skeletal muscle spasm, 2 to 10 mg t.i.d. or q.i.d.; adjunctively in convulsive disorders, 2 to 10 mg b.i.d. to q.i.d. *Geriatric or debilitated patients:* 2 to 2½ mg, 1 or 2 times daily initially, increasing as needed and tolerated. (See Precautions.) *Children:* 1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use under 6 months).

Supplied: Valium® Tablets, 2 mg, 5 mg and 10 mg—bottles of 100 and 500; Tel-E-Dose® packages of 100, available in trays of 4 reverse-numbered boxes of 25, and in boxes containing 10 strips of 10; Prescription Paks of 50, available in trays of 10.

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Advance registration requested

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10 South Pine Street, Room 300 E,
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MEETINGS ABOUT MEDICINE

August 20-22
Endoscopy: What Is Its Role in Gastrointestinal Bleeding? (National Institute of Arthritis, Metabolism and Digestive Diseases), Masur Auditorium, Clinical Center (Building 10), *Bethesda, Maryland.* Mrs. Billie Mackey, Digestive Diseases/Nutrition Program, Bldg. 32, Room 9A21, Bethesda MD 20205, (301) 496-6158.

August 22-24
Clinical Management of Coronary Disease: Exercise Testing (International Medical Education Corporation), Hilton Head Hyatt, *Hilton Head, South Carolina.* 13 hrs. Cat. I. Fee, $245. IMEC, 64 Inverness Dr., Englewood CO 80112, (800) 525-8646 toll-free.

August 23-25
Tutorials in the Tetons: Cardiac Emergencies Annual Symposium (University of Nebraska Medical Center), Jackson Lake Lodge, *Moran, Wyoming.* Registration Secretary, American College of Cardiology, 9111 Old Georgetown Rd., Bethesda MD 20014.

September 9
Infectious Diseases Review (East Tennessee State University College of Medicine), *Johnson City, Tennesee.* Frances H. Rhodes, East Tennesee State University College of Medicine, Johnson City TN 37601.

September 17-19
Angus M. McBryde Perinatal Symposium (Duke University Medical Center), *Durham, North Carolina.* Fee, $75 physicians, $40 nurses Box 3967, Duke University Medical Center, Durham NC 27710.

September 18
Urban Health: Case Studies (University of Maryland School of Medicine), *Baltimore, Maryland.* Betty Saar, Room 300, 10 S. Pine St., Baltimore MD 21201, (301) 528-3956.

September 18-19
3rd Annual Conference on Aging and Health (Salem, Virginia, Veterans Administration Medical Center and University of Virginia School of Medicine), VA Center, *Salem.* Dr. Frank Brochu, VA Medical Center, Salem VA 24153, (703) 982-2463.

September 26-27
3rd Annual Perinatal Conference: Perinatal Infections (Medical College of Virginia/VCU), Holiday Inn, I-64 West End, *Richmond.* 6 hrs. Cat. 1. Fee: physicians, $85; health care professionals, $60; visiting housestaff, $15. Kathy E. Johnson, Box 48, MCV Station, Richmond VA 23298, (804) 786-0494.

September 26
Symposium on Exercise and Health (Lynchburg Academy of Medicine), E.C. Glass High School, *Lynchburg,* 1-5 PM. 4 hrs. Cat. 1 credit, no fee. William H. Barney, MD, (804) 528-3113.

September 25-27
Granulomatous Disease of the Lung (Virginia Lung Association), Sheraton Beach Inn, *Virginia Beach.* 9 hrs. Cat. I. Fee, $50. Taylor R. Copping, PO Box 7065, Richmond VA 23221, (804) 335-3295.

September 26-27
Behavioral Aspects of Adolescent Health Care (University of Maryland School of Medicine), Sheraton Inn, *Ocean City, Maryland.* Betty Saar, Room 300, 10 S. Pine St., Baltimore MD 21201, (301) 528-3956.

September 22-26
Review and Update in Internal Medicine (American College of Physicians and Medical College of Virginia), Baruch Auditorium, *Richmond.* Fee: ACP members and fellows, residents and research fellows, $280; ACP associates, $210; non-members, $370. Dr. Duncan S. Owen, Jr., Box 647, MCV Station, Richmond VA 23298, (804) 786-9341.

September 26-27
Intraocular Lens Implantation Surgical Symposium (Bethesda Hospital and University of Cincinnati), *Cincinnati, Ohio.* 10 hrs. credit. Fee: Physicians, $150; residents, $75. Thomas O'Connor, Bethesda Hospital, 619 Oak St., Cincinnati OH 45206, (513) 559-6337.

October 6-10
Recent Advances in Internal Medicine (American College of Physicians and Vanderbilt University School of Medicine), *Nashville, Tennessee.*

More meetings next page.

October 8
Problems for Physicians in Caring for the Elderly (University of Maryland School of Medicine), *Baltimore.* Program of CME, 10 S. Pine St., Baltimore MD 21201, (301) 528-3956.

October 9-10
Coal Workers Pneumoconiosis (East Tennessee State University College of Medicine, Tennessee and Virginia Lung Associations), *Bristol, Tennessee.* 8½ hrs. credit. Fee: $60. Shirley Bogart at the College, (615) 928-6426, Ext. 204.

October 12-14
1980 Clinical Congress of the American College of Surgeons, *Atlanta, Georgia.* Hour-for-hour Cat. 1 credits. Fee: Non-fellows, $190; surgical residents, $95. Dianne O'Rourke, 55 E. Erie St., Chicago IL 60611, (312) 664-4050, Ext. 324.

October 13-14
Tennessee Valley Medical Assembly, Choo Choo Convention Center, *Chattanooga, Tennessee.* F. M. Richardson, Suite 313, 960 E. Third St., Chattanooga TN 37403.

October 15
Pediatrics Prep (East Tennessee State University College of Medicine), *Bristol, Tennessee.* 7 hrs. credit. Fee: $60. Shirley Bogart at the College, (615) 928-6426, Ext. 204.

October 17
Annual Family Practitioners' Symposium (Gill Memorial Hospital Foundation), *Roanoke.* Dr. David N. Keys, PO Box 1789, Roanoke VA 24008, (703) 344-2071.

October 17
Pulmonary Medicine (Roanoke Memorial Hospital), *Roanoke.* William H. McAfee, Roanoke Memorial Hospital, Roanoke VA 24033.

October 24-25
Newer Diagnostic Techniques for the Practicing Clinician: 52nd Annual McGuire Lecture Series (Medical College of Virginia), *Richmond.* 12 credit hours. Fee: Physicians, $130; visiting housestaff, $25. Kathy E. Johnson, Box 48, MCV Station, Richmond VA 23298, (804) 786-0494.

October 24-26
American Medical Association Regional Meeting, Fairmont Hotel, *Philadelphia.* J. Sturgeon, AMA, 535 N. Dearborn St., Chicago IL 60610.

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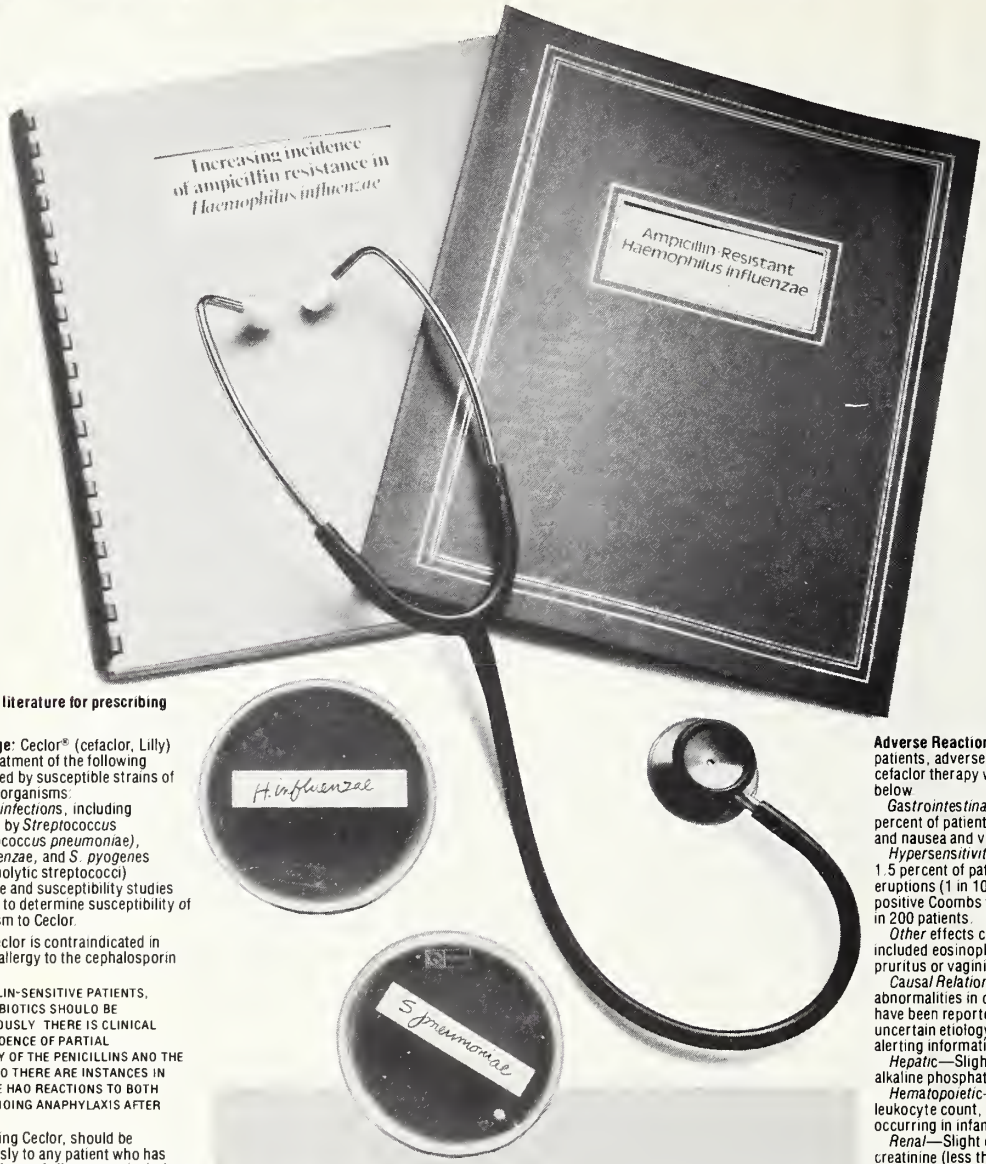


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Brief Summary
Consult the package literature for prescribing information.

Indications and Usage: Ceclor® (cefaclor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms:

Lower respiratory infections, including pneumonia caused by *Streptococcus pneumoniae (Diplococcus pneumoniae)*, *Haemophilus influenzae*, and *S. pyogenes* (group A beta-hemolytic streptococci)

Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Ceclor.

Contraindication: Ceclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics.

Warnings: IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY. THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS TO BOTH DRUG CLASSES (INCLUDING ANAPHYLAXIS AFTER PARENTERAL USE).

Antibiotics, including Ceclor, should be administered cautiously to any patient who has demonstrated some form of allergy, particularly to drugs.

Precautions: If an allergic reaction to cefaclor occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e.g., pressor amines, antihistamines, or corticosteroids.

Prolonged use of cefaclor may result in the overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Positive direct Coombs tests have been reported during treatment with the cephalosporin antibiotics. In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs test may be due to the drug.

Ceclor should be administered with caution in the presence of markedly impaired renal function. Under such a condition, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended.

Usage in Pregnancy—Although no teratogenic or antifertility effects were seen in reproduction studies in mice and rats receiving up to 12 times the maximum human dose or in ferrets given three times the maximum human dose, the safety of this drug for use in human pregnancy has not been established. The benefits of the drug in pregnant women should be weighed against a possible risk to the fetus.

Usage in Infancy—Safety of this product for use in infants less than one month of age has not been established.

Adverse Reactions: In clinical studies in 1493 patients, adverse effects considered related to cefaclor therapy were uncommon and are listed below.

Gastrointestinal symptoms occurred in about 2.5 percent of patients and included diarrhea (1 in 70) and nausea and vomiting (1 in 90).

Hypersensitivity reactions were reported in about 1.5 percent of patients and included morbilliform eruptions (1 in 100). Pruritus, urticaria, and positive Coombs tests each occurred in less than 1 in 200 patients.

Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients).

Causal Relationship Uncertain—Transitory abnormalities in clinical laboratory tests results have been reported. Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician.

Hepatic—Slight elevations in SGOT, SGPT, or alkaline phosphatase values (1 in 40).

Hematopoietic—Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40).

Renal—Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200). [070379R]

*Many authorities attribute acute infectious exacerbation of chronic bronchitis to either *S. pneumoniae* or *H. influenzae*.[8]

Note: Ceclor® (cefaclor) is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients.

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information.

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Additional information available to the profession on request from Eli Lilly and Company, Indianapolis, Indiana 46285.

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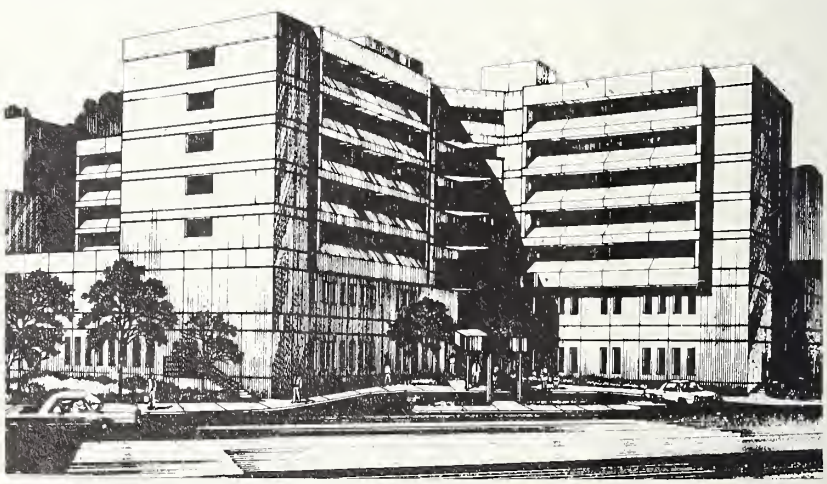
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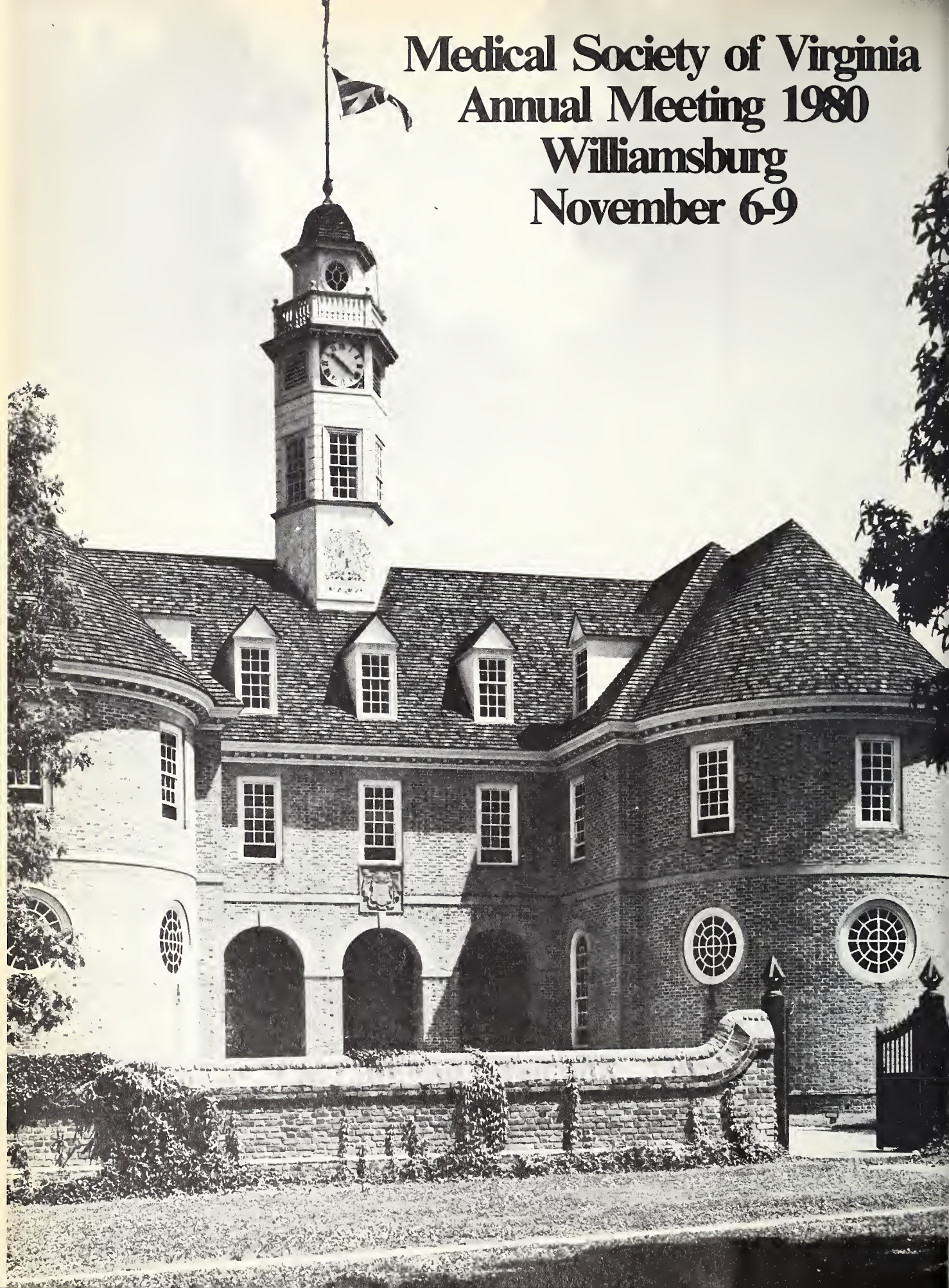
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Home Glucose Monitoring for Insulin-Dependent Diabetics: Preliminary Results

William S. Evans, MD, and Stephen L. Pohl, MD,
Charlottesville, Virginia

One of several new approaches to improving blood glucose homeostasis in the insulin-deficient diabetic is home glucose monitoring. It is a viable alternative to the more conventional and less successful methods of control and should be considered for treatment of these patients.

FOR years debate has continued around an issue of vital importance to everyone interested in diabetes; simply stated, do the metabolic derangements cause, worsen, or any way contribute to the vascular complications often seen later in the disease? Numerous reviews have addressed the question,[1-9] including a recent article by Skyler,[10] who concluded that virtually all studies using animal models have documented a strong correlation between the degree of control of hyperglycemia and the eventual development of complications. Furthermore, the majority of human studies, albeit hampered by problems in experimental design, have also suggested that attempts at improving control have been associated with fewer vascular consequences.

However, truly adequate investigations in the human have not been done, primarily because of the inability to achieve and maintain in a chronic fashion normal blood glucose levels. In order to understand why such tight control has been unobtainable, one has only to look at pancreatic function under normal circumstances. Along with the capability of synthesizing insulin, the pancreatic beta cell may be thought of as having three separate but highly coordinated functions. First, it must constantly monitor blood glucose concentration. Then, using this information, it must continually determine the amount of insulin required to maintain glucose homeostasis at all times. Finally, it must introduce insulin into the general circulation. In the insulin-deficient diabetic, to lesser or greater degrees, this complex system is non-functional. Thus, to normalize blood glucose,

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any approach must simulate total pancreatic beta cell activity. It is not surprising, then, that conventional treatment modalities, often utilizing intermediate acting insulin once or twice a day and with no feedback mechanisms beyond urinary glucoses, have proved inadequate for this purpose.

Recently, several more aggressive modes of treatment have received attention. Pancreatic transplants, either total or of isolated islet cells would, theoretically, provide all necessary functions for maintaining glucose homeostasis. Unfortunately, islet cell procedures for a variety of reasons have fallen into relative disfavor, and total pancreas transplants, although occasionally successful, have failed as of yet to provide chronic control.[11] Conversely, work with extra-corporal mechanical devices has been encouraging; such systems have been categorized as either closed-loop or open-loop.

In the closed-loop type, insulin is released in amounts determined by a feedback circuit which is constantly monitoring blood glucose concentration, while the open-loop system is one in which insulin is injected at a given rate without the advantage of immediate feedback as to blood glucose levels. Representing the closed-loop system is the artificial pancreas. Such a machine has been developed[12] and, using a glucose-sensing mechanism, computer and injection pump, can maintain the blood glucose in an acceptable range. Although a fascinating research tool, size prevents the artificial pancreas from being a practical device for control of the insulin-deficient diabetic under usual circumstances. While miniaturization of the machine is almost undoubtedly in the future, no information concerning a time frame for its development is available.

In contrast to the closed-loop artificial pancreas, open-loop systems make use of insulin pumps which introduce insulin, either subcutaneously or intravenously, at a fixed rate. This rate is estimated from previously calculated average daily insulin needs and, by definition, cannot be changed on a moment-to-moment basis. While control can clearly be improved using the insulin pump,[13–18] problems inherent in the system do exist. Much work is underway in this area, but, as with the artificial pancreas, the insulin pump is not currently a practical alternative for the majority of insulin-deficient diabetics.

Another possibility for dramatically improving the metabolic parameters in the insulin-deficient diabetic is a system which has been called home glucose monitoring (HGM). Numerous studies have now attested to its efficacy[19–27] and, perhaps most importantly, home glucose monitoring can be made available to virtually any insulin-deficient diabetic. Using capillary blood obtained from a finger puncture, the diabetic measures his or her own blood glucose, using a reflectance meter during daily activities. Based on this information, decisions are made regarding appropriate insulin doses, and, using standard techniques, the required amount of insulin is injected. The high success rates reported by other investigators prompted our group at the University of Virginia to develop a home glucose monitoring protocol, and the preliminary results are reported here.

Materials and Methods

Subjects

As this is written, seven subjects (mean age 27 years, range 17-48) have been involved in our study from two to nine months. All are insulin-deficient diabetics and have had their disease for one to 18 years (mean 9.4 years). Complications include none (subjects 1, 2, 5, 6, and 7), retinopathy only (subject 3), and retinopathy, nephropathy, and atherosclerotic cardiovascular disease (subject 4). Control, prior to and during the study, has been assessed by measurement of glycosylated hemoglobin (hemoglobin A_1C, normal 5.85–8.85%). Prior to beginning home glucose monitoring, hemoglobin A_1C concentrations in our group ranged from 10.2–18.6% with a mean of 13.9%.

Assays

Serum glucose concentrations performed by the clinical laboratory were done on the System I Beckman Glucose Analyzer using a glucose oxidase method (normal 65-110 mg/dl). Hemoglobin A_1C levels were determined by cation exchange chromatography (normal 5.85–8.85%).

Home Glucose Monitoring System

Blood for self-testing is obtained by finger puncture using the Monolet lancet (Sherwood Medical Industries, Deland, Florida). The subject is encouraged to use all ten fingers; each finger is pricked five to ten times before moving to the next. Although the puncture site must be clean, cleansing with alcohol appears unnecessary. A drop of blood is placed on the test strip; in the system marketed by the Ames Company (Elkhardt, Indiana), this test strip is Dextrostix®, which is impregnated with glucose oxidase, peroxidase and a chromagen. Through a rather simple chemical reaction, the chromagen system develops in direct proportion to the concentration of blood glucose; higher levels of blood glucose result in a darkening of the test strip. The Eyetone® meter (Ames Company) is a reflectance colorimeter which, using

Table 1: Simultaneous Serum and Blood Glucose Values by Laboratory and Patient Eight Times in 24 Hours.

Time/Activity	Serum Glucose (mg/dl) Clinical Laboratory	Blood Glucose (mg/dl) By Subject
3 AM	49	55
Before breakfast	61	59
1 hour after breakfast	227	220
Before lunch	83	70
1 hour after lunch	220	219
Before supper	208	201
1 hour after supper	274	280
10 PM	261	300

the Dextrostix®, is capable of quite reliably determining blood glucose concentrations. Numerous studies have documented the accuracy of the current generation instrument, both in the laboratory[28,29] and when used by diabetic subjects.[21–24]

Experimental Design

Initially, all subjects were instructed in use of the home glucose monitoring system as outpatients (subjects 1-4). Because of technical difficulties experienced by two (subjects 1 and 4) and in order to more closely monitor the decision-making process in regard to insulin dose, subsequent subjects (5-7) were admitted to a self-care unit and instructed and observed in a highly supervised environment. After a detailed explanation of the practical aspects of the system, each subject performs multiple blood glucoses with simultaneous serum glucoses being done by the clinical laboratory. The latter provides instant feedback so that problems with technique can be identified and resolved quickly. Having achieved a high degree of accuracy with the meter, the subject begins monitoring glucoses before and one hour after each meal, before bed, and at any other time when information would be desirable, such as during episodes of suspected hypoglycemia. The insulin regimen generally includes a split dose of intermediate given in the morning and before dinner and regular prior to each meal. Regular insulin is also used on a PRN basis whenever the blood glucose exceeds the acceptable range. Having mastered these fundamentals, the subject is discharged and, on an outpatient basis, begins modifying diet, exercise and insulin in an attempt to improve control. Frequent outpatient visits are arranged and a physician is always available by telephone to discuss problems as they arise.

Results

The simultaneously obtained blood and serum glucoses performed by one subject (subject 5, selected at random) and the clinical laboratory are shown in Table I. All diabetics in the study are required to demonstrate similar accuracy before adjusting diet, exercise and insulin based on self-obtained blood glucose values. No subject has complained of excessive soreness or any infection of the finger tips used for puncture. Most describe a callous formation which makes the process virtually painless after three to four weeks.

Hemoglobin A_1C values for the two to nine month period are shown in Table II. With the exception of subject 2, values appear to be decreasing with time and in two cases (subjects 3 and 7) have entered the normal range. The encouraging downward trend of the hemoglobin A_1C levels provides confirmation that the biochemical status is improving. Furthermore, two findings have been reported informally by nearly every subject in our group using home glucose monitoring. First, although not required, virtually all subjects continued checking properly collected (i.e., double-voided) urine samples for glucose for some time early in the protocol. While urine samples correlated in a general manner with blood glucose, there was a uniform feeling that the array of blood glucose concentrations for any given level of urinary glucose makes it impossible to adjust insulin based on the urine alone. Second, many episodes previously assumed to be hypoglycemic reactions are associated with normal blood glucose. If carefully monitored, some do eventually progress to hypoglycemia; often, however, the symptom complex remits spontane-

Table 2: Hemoglobin A_1C Concentrations (Normal 5.85-8.85%) Basally and After Using Home Glucose Monitoring.

Subject Number	Basal	Months after Beginning HGM								
		1	2	3	4	5	6	7	8	9
1	16.5	13.7	11.1	12.8	—	10.6				
2	14.3	12.5	11.3	9.7	11.8	12.0				
3	14.0	12.4	11.6	—	10.2	—	8.3	—	—	5.6
4	11.7	—	9.3							
5	18.6	—	12.4							
6	12.0	—	9.6							
7	10.2	—	8.3	6.8						

ously. Treatment of these non-hypoglycemic episodes with carbohydrate results in hyperglycemia, thus making control difficult to achieve for that particular day. Three individuals appeared either to derive particular benefits from the program (subjects 1 and 3) or had particular problems (subject 2) and are briefly described in more detail.

Subject 1 is a 19 year old white male with insulin-deficient diabetes of 11 years duration who had been treated in his local hospital emergency room and/or directly admitted on 36 occasions in the 12 months prior to beginning HGM. Using HGM, his hemoglobin A_1C fell from 16.5 to 10.6% in five months. Of considerable importance is the fact that, since beginning HGM, he has not been readmitted to the hospital and has been seen only once, briefly, in the emergency room. In addition to the obvious advantages to the patient of not being rehospitalized, financial savings have been estimated to be in excess of $30,000 for this 5-month period.

Subject 3 is a 26-year-old white female with insulin-deficient diabetes since age 10, who had been admitted to her local hospital on four occasions in the five months prior to beginning HGM. Poor control was confirmed biochemically by a hemoglobin A_1C value of 14.0%. This woman is highly motivated and has been more than willing to expend the time and effort in order to achieve good control. As seen in Table II, she has exhibited a progressive fall in hemoglobin A_1C values and these have remained in the normal range since the sixth month. She has incurred no further hospitalizations since beginning HGM.

Subject 2 is a 25-year-old white female with insulin-deficient diabetes for five years. Frequent hypoglycemic episodes were the major problem; using HGM, these have virtually ceased. Of interest is the fact that many of her so-called hypoglycemic reactions are associated with normal blood glucoses and resolve on their own without treatment. Moreover, this subject demonstrates another consideration in the use of HGM. Initially, she used the system very conscientiously, as reflected by a drop in hemoglobin A_1C from 14.3 to 9.7% at three months. However, at that point she felt that the time and effort required for home glucose monitoring was unacceptable to her life style and began to check fewer glucoses and use less insulin. The result was a return to poor control documented by rising hemoglobin A_1C levels.

Discussion

These results, although preliminary, support the majority of literature,[19–27] which suggests that home glucose monitoring can bring about dramatic improvement in the control of insulin-deficient diabetes, and mean blood glucose levels, approximated by hemoglobin A_1C determinations, may become normal. Whether or not such tight control will prevent or lessen long-term vascular complications in the human remains to be seen. Both animal data[30,32] and the currently available data in humans[33–39] would tend to favor the hypothesis of a cause and effect relationship between a chronically increased glucose environment and the development of vascular abnormalities. It may well be that home glucose monitoring and similar approaches will at last allow the studies in humans which have been so long overdue. Several conclusions are already apparent.

- Home glucose monitoring can provide reliable information for both the diabetic and his physician with regard to blood glucose levels during normal activities. Using such information, the patient with the help of his physician can make logical decisions about changes in diet, exercise and insulin.
- While urinary glucoses may suggest general trends regarding blood glucose, they cannot be used in an acceptable manner as the basis for such decision-making, even when double-voided and properly quantitated. This fact has been described by Moffit[27] and Malone[40] and has been supported by most if not all subjects involved in home glucose monitoring.
- Symptoms compatible with hypoglycemia are common in the diabetic but may not always be associated with true low blood glucose. One investigator[41] found that during such episodes blood glucose was below 70 mg/dl only 50% of the time. Unfortunately, current practice holds that all reactions must be treated with carbohydrates; thus many diabetics probably go from normoglycemia to hyperglycemia in just such a manner, and this in itself clearly makes good control more difficult.
- Hospitalizations and emergency room visits are decreased dramatically; the overall financial consequence of this has yet to be determined but must be substantial.
- Patients in special situations where in normoglycemia is highly desirable, such as pregnancy, may benefit greatly from the degree of control possible using home glucose monitoring.[27]
- The patient becomes decidedly more motivated and active in his own management. The psychological aspects are largely unknown and are under investigation[27]; subjectively, the improvement in outlook of patients who at last have

some degree of control over their disease is obvious to all workers in the field.

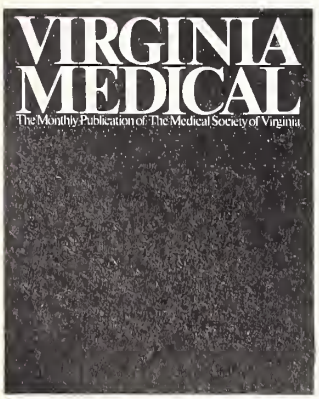
In conclusion, home glucose monitoring is one of several new and aggressive approaches to improving blood glucose homeostasis in the insulin-deficient diabetic. The advent of a successful long-term pancreatic transplant or a reliable miniaturized artificial pancreas may, soon, supercede it as a treatment modality, but for the time it would appear that home glucose monitoring is a viable alternative to the more conventional and less successful methods of control and should at least be considered for use in patients with insulin-deficient diabetes mellitus.

We would like to thank Dr. Brian Renoe and Ms. Marcia Lehman for performing the laboratory studies and Ms. Stephanie Howell and Ms. Sibyl Sturgis for their expert secretarial support.

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Brief Summary

INDICATION: Tenuate and Tenuate Dospan are indicated in the management of exogenous obesity as a short-term adjunct (a few weeks) in a regimen of weight reduction based on caloric restriction. The limited usefulness of agents of this class should be measured against possible risk factors inherent in their use such as those described below.

CONTRAINDICATIONS: Advanced arteriosclerosis, hyperthyroidism, known hypersensitivity or idiosyncrasy to the sympathomimetic amines, glaucoma. Agitated states. Patients with a history of drug abuse. During or within 14 days following the administration of monoamine oxidase inhibitors, (hypertensive crises may result).

WARNINGS: If tolerance develops, the recommended dose should not be exceeded in an attempt to increase the effect; rather, the drug should be discontinued. Tenuate may impair the ability of the patient to engage in potentially hazardous activities such as operating machinery or driving a motor vehicle; the patient should therefore be cautioned accordingly. *Drug Dependence*: Tenuate has some chemical and pharmacologic similarities to the amphetamines and other related stimulant drugs that have been extensively abused. There have been reports of subjects becoming psychologically dependent on diethylpropion. The possibility of abuse should be kept in mind when evaluating the desirability of including a drug as part of a weight reduction program. Abuse of amphetamines and related drugs may be associated with varying degrees of psychologic dependence and social dysfunction which, in the case of certain drugs, may be severe. There are reports of patients who have increased the dosage to many times that recommended. Abrupt cessation following prolonged high dosage administration results in extreme fatigue and mental depression; changes are also noted on the sleep EEG. Manifestations of chronic intoxication with anorectic drugs include severe dermatoses, marked insomnia, irritability, hyperactivity, and personality changes. The most severe manifestation of chronic intoxications is psychosis, often clinically indistinguishable from schizophrenia. *Use in Pregnancy*: Although rat and human reproductive studies have not indicated adverse effects, the use of Tenuate by women who are pregnant or may become pregnant requires that the potential benefits be weighed against the potential risks. *Use in Children*: Tenuate is not recommended for use in children under 12 years of age.

PRECAUTIONS: Caution is to be exercised in prescribing Tenuate for patients with hypertension or with symptomatic cardiovascular disease, including arrhythmias. Tenuate should not be administered to patients with severe hypertension. Insulin requirements in diabetes mellitus may be altered in association with the use of Tenuate and the concomitant dietary regimen. Tenuate may decrease the hypotensive effect of guanethidine. The least amount feasible should be prescribed or dispensed at one time in order to minimize the possibility of overdosage. Reports suggest that Tenuate may increase convulsions in some epileptics. Therefore, epileptics receiving Tenuate should be carefully monitored. Titration of dose or discontinuance of Tenuate may be necessary.

ADVERSE REACTIONS: *Cardiovascular*: Palpitation, tachycardia, elevation of blood pressure, precordial pain, arrhythmia. One published report described T-wave changes in the ECG of a healthy young male after ingestion of diethylpropion hydrochloride. *Central Nervous System*: Overstimulation, nervousness, restlessness, dizziness, jitteriness, insomnia, anxiety, euphoria, depression, dysphoria, tremor, dyskinesia, mydriasis, drowsiness, malaise, headache; rarely psychotic episodes at recommended doses. In a few epileptics an increase in convulsive episodes has been reported. *Gastrointestinal*: Dryness of the mouth, unpleasant taste, nausea, vomiting, abdominal discomfort, diarrhea, constipation, other gastrointestinal disturbances. *Allergic*: Urticaria, rash, ecchymosis, erythema, *Endocrine*: impotence, changes in libido, gynecomastia, menstrual upset. *Hematopoietic System*: Bone marrow depression, agranulocytosis, leukopenia. *Miscellaneous*: A variety of miscellaneous adverse reactions has been reported by physicians. These include complaints such as dyspnea, hair loss, muscle pain, dysuria, increased sweating, and polyuria.

DOSAGE AND ADMINISTRATION: Tenuate (diethylpropion hydrochloride): One 25 mg. tablet three times daily, one hour before meals, and in midevening if desired to overcome night hunger. Tenuate Dospan (diethylpropion hydrochloride) controlled-release: One 75 mg. tablet daily, swallowed whole, in midmorning. Tenuate is not recommended for use in children under 12 years of age.

OVERDOSAGE: Manifestations of acute overdosage include restlessness, tremor, hyperreflexia, rapid respiration, confusion, assaultiveness, hallucinations, panic states. Fatigue and depression usually follow the central stimulation. Cardiovascular effects include arrhythmias, hypertension or hypotension and circulatory collapse. Gastrointestinal symptoms include nausea, vomiting, diarrhea, and abdominal cramps. Overdose of pharmacologically similar compounds has resulted in fatal poisoning, usually terminating in convulsions and coma. Management of acute Tenuate intoxication is largely symptomatic and includes lavage and sedation with a barbiturate. Experience with hemodialysis or peritoneal dialysis is inadequate to permit recommendation in this regard. Intravenous phentolamine (Regitine®) has been suggested on pharmacologic grounds for possible acute, severe hypertension, if this complicates Tenuate overdosage.

Product Information as of April, 1976

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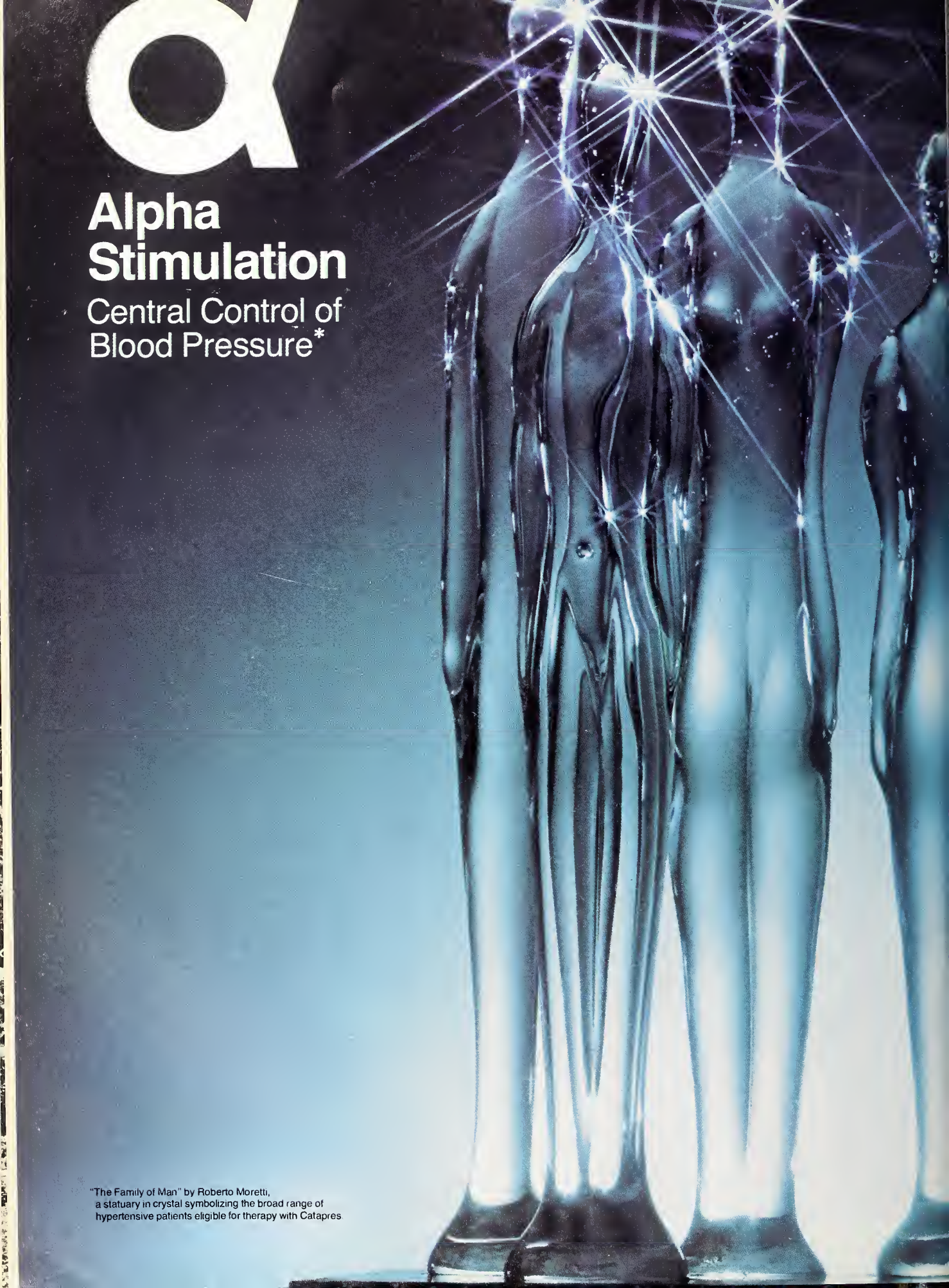
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Please see last page for brief summary, including warnings, precautions, and adverse reactions.

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Warnings: Tolerance may develop in some patients necessitating a reevaluation of therapy.
Usage in Pregnancy: In view of embryotoxic findings in animals, and since information on possible adverse effects in pregnant women is limited to uncontrolled clinical data, the drug is not recommended in women who are or may become pregnant unless the potential benefits outweigh the potential risk to mother and fetus.
Usage in Children: No clinical experience is available with the use of Catapres (clonidine hydrochloride) in children.

Precautions: When discontinuing Catapres (clonidine hydrochloride), reduce the dose gradually over 2 to 4 days to avoid a possible rapid rise in blood pressure and associated subjective symptoms such as nervousness, agitation, and headache. Patients should be instructed not to discontinue therapy without consulting their physician. Rare instances of hypertensive encephalopathy and death have been recorded after cessation of clonidine hydrochloride therapy. A causal relationship has not been established in these cases. It has been demonstrated that an excessive rise in blood pressure, should it occur, can be reversed by resumption of clonidine hydrochloride therapy or by intravenous phentolamine. Patients who engage in potentially hazardous activities, such as operating machinery or driving, should be advised of the sedative effect. This drug may enhance the CNS-depressive effects of alcohol, barbiturates and other sedatives. Like any other agent lowering blood pressure, clonidine hydrochloride should be used with caution in patients with severe coronary insufficiency, recent myocardial infarction, cerebrovascular disease or chronic renal failure.

As an integral part of their overall long-term care, patients treated with Catapres (clonidine hydrochloride) should receive periodic eye examinations. While, except for some dryness of the eyes, no drug-related abnormal ophthalmologic findings have been recorded with Catapres (clonidine hydrochloride), in several studies the drug produced a dose-dependent increase in the incidence and severity of spontaneously occurring retinal degeneration in albino rats treated for 6 months or longer.

Adverse Reactions: The most common reactions are dry mouth, drowsiness and sedation. Constipation, dizziness, headache, and fatigue have been reported. Generally these effects tend to diminish with continued therapy. The following reactions have been associated with the drug, some of them rarely. (In some instances an exact causal relationship has not been established.) These include: Anorexia, malaise, nausea, vomiting, parotid pain, mild transient abnormalities in liver function tests; one report of possible drug-induced hepatitis without icterus and hyperbilirubinemia in a patient receiving clonidine hydrochloride, chlorthalidone and papaverine hydrochloride. Weight gain, transient elevation of blood glucose, or serum creatine phosphokinase; congestive heart failure, Raynaud's phenomenon; vivid dreams or nightmares, insomnia, other behavioral changes, nervousness, restlessness, anxiety and mental depression. Also rash, angioneurotic edema, hives, urticaria, thinning of the hair, pruritus not associated with a rash, impotence, urinary retention, increased sensitivity to alcohol, dryness, itching or burning of the eyes, dryness of the nasal mucosa, pallor, gynecomastia, weakly positive Coombs' test, asymptomatic electrocardiographic abnormalities manifested as Wenckebach period or ventricular trigeminy.

Overdosage: Profound hypotension, weakness, somnolence, diminished or absent reflexes and vomiting followed the accidental ingestion of Catapres (clonidine hydrochloride) by several children from 19 months to 5 years of age. Gastric lavage and administration of an analeptic and vasopressor led to complete recovery within 24 hours. Tolazoline in intravenous doses of 10 mg at 30-minute intervals usually abolishes all effects of Catapres, (clonidine hydrochloride) overdosage.

How Supplied: Catapres, brand of clonidine hydrochloride, is available as 0.1 mg (tan) and 0.2 mg (orange) oval, single-scored tablets in bottles of 100 and 1000. Also available as 0.3 mg (peach) oval, single-scored tablets in bottles of 100.

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Considerations in Psychosomatic Illness

Kemal Elbirlik, MD, *Charlottesville, Virginia*

"The effectiveness of medical or surgical treatment should be judged not only by the reduction or cure of somatic symptoms but also by the effect on the patient's psychic economy, which it may influence either favorably or unfavorably."

ANY physical condition that can be initiated, exacerbated, or prolonged by psychological factors is held to be a psycho-physiologic disease.[1] It should be remembered, however, that emotional factors may vary in influence from time to time in the course of a single illness, being at times minimal or even absent and at other times of primary importance.[2] They should not in any case be considered to the exclusion of physical symptoms, which are an appropriate target for medical treatment and during an established physical illness have the highest priority.

Rahe and Arthur's work[3] points to the particularly strong influence of recent life changes on the appearance of psychological and physiological symptoms. However, all emotional stress has unconscious (symbolic) as well as conscious meaning for the individual, and its intensity, frequency, cumulative effect, and duration can be expected to affect psychological equilibrium and to bring about physiological change as well. Some physiological alterations are there for both the patient and his physician to see—muscle tension, sweating, pain and evident mood change. Others remain invisible to the patient, being changes in blood pressure, changes in blood chemistry, hypoglycemia and increase in lipids, etc.

When a sudden change threatens the ego integrity of an individual with poor psychological ability to handle emotional stress, the pressure may make itself felt in either the psychological or physiological system, or in both at once.[4] The response to stress may appear in emotional disturbance or in the dysfunction of some vulnerable organ or organ system. Each body is likely to have an organ constitutionally sensitive to the impact of stress. We call these *loci minoris resistantiae*—spots of least resistance, or the weakest links. Which organ it is may be determined by heredity or congenital factors. A specific somatic system may have been sensitized or conditioned by infectious disease early in life and hence be especially susceptible, or interaction between the individual's emotional needs and his environment may play a part in the outcome.

Complex, conditioned, psycho-physical responses are sometimes established and are subject to reactivation under stress. The individual's habitual style of adapting to stress is likely to decide whether he will present with a psychological or physical illness, and it is usual for external stress to trigger some already

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existing internal conflict. Although the stressed person will mobilize his ego defense mechanisms, they do not determine whether the outcome will lie in a psychological or physiological direction. The stressed person who blocks any expression (or even acknowledgment) of affect and tends to deny reality may go into somatic dysfunction for lack of any other way to express his great discomfort. When something unacceptable comes into our lives we can deal with it by repressing it, foregetting it, pretending that things are not what they seem, or blaming it on somebody else. Or we may rationalize so often that we have built up a rigid personality pattern that readily supplies us with good reasons why the unacceptable situation has no claim on our attention or belief, and no application to ourselves.

Denial and rationalization often bring about a shift in coping mechanisms from a psychological reaction to somatic dysfunction. When denial is effective and strong, emotional energy with intense untamed aggressiveness is redirected toward the self because ego functions are limited and the ability to neutralize aggression is impaired. When discharge of emotional energies and aggression along affective, ideational and behavioral pathways becomes increasingly insufficient, a major somatic dysfunction may occur. Early recognition of denial makes it possible to weaken the force and tenacity of the physical symptoms.

The physician will realize that the physical symptoms of some patients may be deeply intertwined with anxiety and underlying depression, and even that they might represent somatic identification in an attempt to recover loss, as when the widow of a man recently dead of a massive coronary complains of chest pains in the absence of discernible organic disorder. He will not overlook the possibility, however, that presenting symptoms may be signs that physical dysfunction is developing and demands physical treatment. When the presence of physical disorder is established, the influence of psychological factors on the symptoms and the course of the demonstrated disease must still have consideration, and the effectiveness of medical or surgical treatment should be judged not only by the reduction or cure of somatic symptoms but also by the effect on the patient's psychic economy, which it may influence either favorably or unfavorably. The relief of physical symptoms while severe tension persists may cause unexpected complications. For example, the cardiac patient who has been put back on his feet with hospital treatment but who has been sent back into the stressful situation that occasioned his attack, has not received truly adequate treatment unless he has been given therapeutic help in evaluating what the stress means to him and in learning how to handle it best.

The way in which an individual reacts to physical illness and its associated symptoms is strongly influenced by how far he goes into denial and what his life style and personality characteristics are. One must also at all times consider the possibility of secondary gains—the benefits, conscious or unconscious, that the ill person derives from being sick. At first blush most of us think of being sick as a disagreeable experience to be avoided, but strong, chronically unsatisfied and repressed infantile needs sometimes make the passive and dependent state of an invalid deeply congenial to some people. The fear of being helpless and deserted can be allayed by being identified as a sick person in need of constant attention. Some patients find sickness a workable—and perhaps the only—way to master their environment and to relieve sadomasochistic feelings. And in some cases financial compensation is at stake, as it is when someone injured on the job wants workmen's compensation and malingers.

One often overlooked aspect of secondary gains is that, in the presence of demonstrable physical disorder, underlying and possibly severe and chronic psychological problems can be denied by both patient and physician, and often are. When this is true, the tendency toward chronicity and possibly tragic outcomes must have attention. The physician should clearly refrain from telling the patient with a true physiological problem that it is "all in his head"—which is the way the public thinks of psychosomatic illness, even when the problem is obscure and hard to diagnose; he owes it to his patient to probe for every possibility of organic disease. But at the same time he should not assume that the patient he has been able to get into good shape physically in the hospital is obviously ready to return, without any psychological help, to the stressful situation in which he fell ill and which may now seem even more threatening psychologically than before.

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Acute Renal Failure and Hepatitis In Infectious Mononucleosis

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NEPHRITIS associated with infectious mononucleosis has been described by several authors, but apparently acute renal failure is not a commonly recognized complication of this disease. A case is here presented of a patient who demonstrated clinical and serologic evidence of infectious mononucleosis and simultaneously had severe hepatitis and renal failure but who went on to complete recovery.

Case Report

A 20-year-old white male was seen at Lewis-Gale Clinic on October 4, 1977, for evaluation of fever and jaundice. He had been seen by another physician who had made a diagnosis of infectious hepatitis. A complete examination revealed primarily the finding of jaundice, not associated with hepatomegaly or splenomegaly. There was no asterixis, and the patient's sensorium was clear. It was also noted that the patient had a severe pharyngitis without significant cervical adenopathy. He was sent home with instructions to the family concerning isolation precautions, and liver function studies were obtained along with a monospot test. He was admitted to the hospital 2 days later because of bizarre behaviour described by his family as drunkenness. He was placed in enteric isolation and supported with IV fluids.

Physical examination at the time of admission revealed a blood pressure of 138/78, pulse 68 and regular and a temperature of 36°C (97°F). He was a well developed white male who was somewhat confused. Examination of the eyes again revealed marked scleral icterus, and there was still significant pharyngitis without exudates. The neck was supple, and there was no cervical adenopathy. Cardiac exam revealed a normal PMI and a regular rhythm and rate. There was a grade II/VI systolic ejection-type murmur heard at the apex and along the left sternal border without radiation. Lungs were clear to percussion and auscultation. Abdominal examination revealed a tender liver 2-3 finger breadths below the right costal margin. Neurological examination was normal except for the confusion and mild disorientation. Examination of the skin revealed no rashes.

Initial laboratory work revealed a hemoglobin of 14.7, a white blood cell count of 5,500 with 59 polys, 33 lymphocytes, 7 monocytes, 1 eosinophil and adequate platelets. Initial prothrombin time was 21 seconds for the patient with a control of 10 seconds. Urinalysis was unremarkable. SGOT was 980 mU/ml, SGPT 2,065 IU (normal 6-37 IU), LDH 550 mU/ml, total bilirubin 13.6 mg/dl, alkaline phosphatase 160 mU/ml (normal 30-115 mU/ml), BUN 101 mg/dl and creatinine 7.0 mg/dl. Sodium was 133 mEq/L, potassium 4.1 mEq/L, cloride 98 mEq/L and CO_2 25 mEq/L. Glucose was 240 mg/dl, total protein 6.0 g/dl, albumin 3.2 g/dl, phosphorus 3.8 mg/dl, uric acid 18.8 mg/dl and calcium 8.2 mg/dl. An initial ASO titer was 221 Todd units.

The patient's sensorium improved quickly, and by the second day of hospitalization he was much more oriented. A fine morbilliform rash was noted over the trunk, which cleared over the next several days. By day 3, the BUN was 74 and the creatinine 3.6. The SGOT had decreased to 380. Urine volume remained adequate and 24-hour urine for protein revealed 0 mg%. The monospot test was positive, and the heter-

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Submitted 11-28-79.

ophile titer was noted to be 1:3584. An Epstein-Barr virus titer (acute phase) eventually was shown to be 1:10. Ox cell hemolysin was greater than 1:1280. A random spot urine sodium was 47 mEq, consistent with acute renal failure but not with hepatorenal syndrome. A repeat ASO titer on the 5th day revealed no significant increase (250 Todd units). Throat culture was no growth. Complement studies showed a C-4 of 9.5 mg% (normal 12-72 mg%) and a C-3 of 50 mg% (normal 62-212 mg%).

By the 8th hospital day, the patient was feeling very well. The urinalysis was negative for glucose, blood and protein. However, now it was noted that he had 10-12 red blood cells and 12–14 white blood cells, and granular casts were reported seen. A urine culture revealed less than 10,000 organisms. The hemoglobin remained stable at 14.3 with a reticulocyte count of 0.6%. A repeat white blood cell count was 5,000 with 25 polys, 1 stab, 44 lymphocytes (20 atypical), 7 monocytes, 2 eosinophils and 1 basophil. A leptospirosis slide agglutination test was negative. A total protein electrophoresis showed a broad gamma spike. On the day prior to discharge, the BUN was 21 and the creatinine had dropped to 1.5. The uric acid had returned to a normal value of 5.6. The total bilirubin was 3.3, alkaline phosphatase 95, LDH 225 and SGOT 55. Hepatitis B antigen was negative.

The patient was sent home 12 days after admission, and instructed to rest. He continued to do well. He was seen in followup 2 months later, and his creatinine clearance was measured at 157 ml/min. Again, no urinary protein was found, and a urinalysis was completely normal. The creatinine was 1.1 with a BUN of 14. Liver function studies were all normal. The patient had returned to full activity, and was feeling well. He was seen again 8 months later, and no abnormalities were noted either on physical or laboratory examination.

Discussion

Infectious mononucleosis is a well-known, self-limiting infection of varying severity that usually strikes teenagers and young adults. Fever, malaise, severe pharyngitis, and cervical lymphadenopathy occur frequently and are usually supported by positive serological tests and an elevated white cell count with atypical lymphocytes. Abnormal liver function studies are not uncommon, but the degree of hepatitis this patient exhibited was severe and no doubt contributed to his toxicity. The associated acute renal failure is extremely uncommon and is usually not thought of as even a rare complication, though nephritis and gross hematuria have been reported several times.[1-3]

Nephritis in association with infectious mononucleosis was first reported in 1889 by Pfeiffer.[3] Tennant in 1968 described a case of infectious mononucleosis associated with gross hematuria, red cell casts and a reduction in creatinine clearance, but with normal serum BUN and creatinine. A 24-hour urine protein was less than 500 mg%. There was no serological evidence of a streptococcal infection. A renal biopsy (containing six glomeruli) did not disclose glomerular findings of an antecedent streptococcal infection. Electron microscopy of the tissue did reveal focal fusion of foot processes. Many of the glomerular capillary lumens contained large membrane-enclosed cytoplasmic protrusions of uncertain origin. It was clear that some of these were continuous with mesangial cell cytoplasm. It was concluded that a benign acute glomerulonephritis can be associated with infectious mononucleosis that does not progress to chronic glomerulonephritis.[3]

However, Lowery et al reported a case of an 18-year-old who had serologic evidence of infectious mononucleosis and who went on to develop irreversible renal failure. A renal biopsy in this case showed a dense interstitial infiltrate of monocytes, histiocytes and eosinophils with accompanying tubular destruction. There was also mild mesangial cell proliferation and periglomerular fibrosis. Electron microscopy showed the architecture of many glomeruli to be normal except for an increase in mesangial cells. These findings led investigators to conclude an association between infectious mononucleosis and the chronic renal failure in this case.[4]

Brun et al described a case in 1970 of infectious mononucleosis with hepatic and renal involvement. In their case report, an 18-year-old had a clinical picture consistent with infectious mononucleosis, as well as supporting serological diagnosis. Liver biopsy revealed a hepatitis associated with an infiltration of mononuclear cells. Urinalysis disclosed 2 grams of proteinuria, microscopic hematuria, a few leukocytes and no bacteria. Six days after admission, the patient had a creatinine of 3.4 and a BUN of 111. This patient also had an anemia of 9.5, which gradually cleared, as did the hematuria and the proteinuria. An IVP was normal. Renal biopsy showed predominantly interstitial edema, a moderate cellular infiltrate and focal tubular necrosis. The glomeruli looked normal and, it should be noted, showed only slight mesangial cell hyperplasia. The renal failure eventually resolved.[5]

Woodroffe et al reviewed three cases that presented with an acute nephritis associated with infectious mononucleosis. Renal biopsy in all three indicated again an interstitial nephritis with a focal

mesangial glomerulonephritis. The conditions were histologically distinguishable from acute post streptococcal glomerulonephritis.[6]

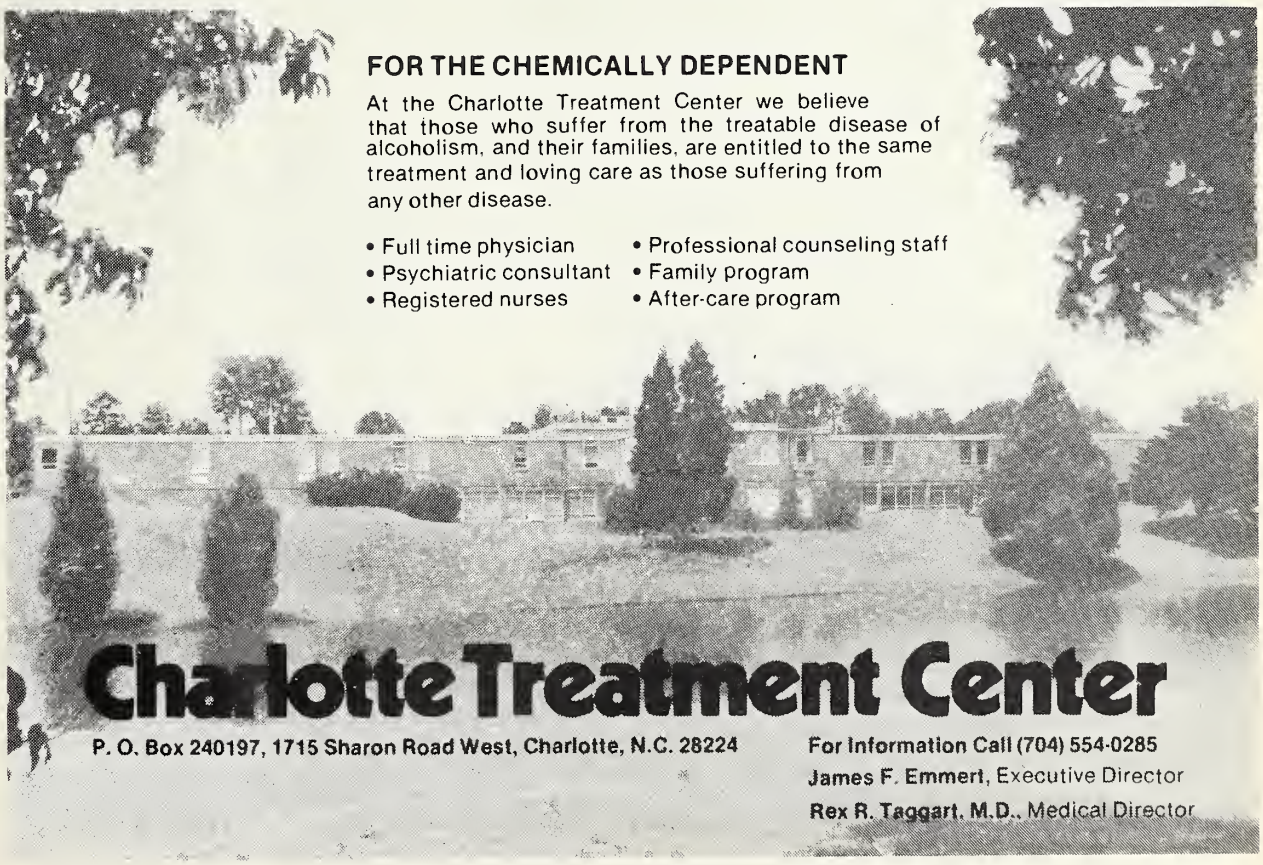
The case presented here certainly demonstrates an example of severe infectious mononucleosis with concomitant hepatitis and acute renal failure. Though liver and renal biopsies were not obtained, they were clinically not felt to be necessary. The most important condition that could be confused with this symptom complex would be post-streptococcal glomerulonephritis. There was no evidence by history, culture, serology, or physical examination of this illness. No toxins could be identified to explain the renal failure.

There have been several examples of renal biopsy material in infectious mononucleosis showing minimal mesangial cell hyperplasia with an interstitial cell infiltration and tubular cell dysfunction. Such pathology could well explain the reason for this patient's acute renal failure. There was lack of evidence pointing to a primary glomerular lesion as might be seen with acute post-streptococcal glomerulonephritis. The absence of urinary protein and the normal blood pressure were very supportive of this. It must also be kept in mind that the slightly depressed complement levels might be indicative of an underlying immune mechanism that causes an interstitial cellular infiltrate and subsequent tubular damage.[7,8]

The author thanks Mrs. Jo Etta Broyles, Mrs. Stella Barbee and Dr. Michael Moore for their help in the preparation of this paper.

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Epiphysiolysis in Rickets

Wells Martin III, MD, and Hans O. Riddervold, MD, *Charlottesville, Virginia*

Case Report

A 16-year-old black male was without medical complaints until approximately one week prior to admission, when he fell and fractured his left radius. X-rays revealed delayed bone age as well as changes consistent with rickets.

On questioning, the patient described noticing over the previous 2-3 years easy fatiguability, decreased appetite and minimal weight gain. Review of systems was unremarkable with respect to skeletal or genitourinary systems. Physical exam revealed a short black male weighing 37.7 kilograms. Neurological and skeletal exams were normal except for the fractured radius.

Pertinent lab data included BUN 150, creatinine 9.4, calcium 10.4, phosphate 10.3, alkaline phosphatase 229, hematocrit 22.3. Urine total protein was 776.

Radiography revealed normal shoulders. X-rays of the hips revealed rachitic changes (Fig. 1).

The patient was selected for transplantation and one year later was admitted for bilateral nephrectomies. Radiography then revealed that, in the interim, bilateral slipped capital femoral epiphyses had developed (Fig. 2A). Bilateral slipped capital humeral epiphyses were also noted with associated rachitic changes in the humeri (Fig. 2B).

Discussion

As has been noted, in patients who are growing and who have renal osteodystrophy, thickening of epiphyseal cartilage occurs without normal matrix or cell calcification[1]. Roentgenograms thus reveal epiphyseal plate widening, loss of the zone of provisional calcification, and irregular calcification near the epiphyseal plate. Shearing stresses are increased in the area of the epiphyseal plates and subsequent slipping occurs.[2,3] The patient described here fits into the high risk group with respect to sex (male), (age 10-20 years), and period of renal failure (two or more years).[2,4]

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Submitted 10-16-79.

Summary

Presented is a case demonstrating slipped capital femoral and capital humeral epiphyses. The physician should keep in mind not only that slipped capital femoral epiphyses may indicate renal osteodystrophy but that epiphysiolysis elsewhere is increasingly a recognized finding in this entity.

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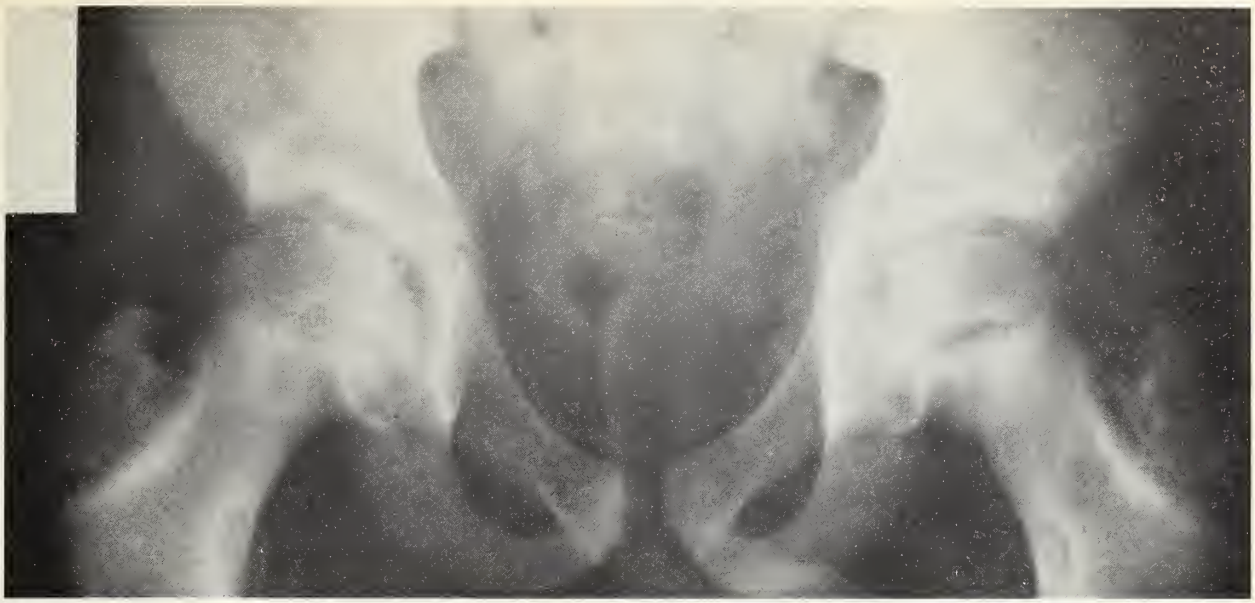


Fig. 1. Admission x-ray shows widening of epiphyseal plate, adjacent irregular ossification, loss of zone of provisional calcification, no evidence of epiphysiolysis.

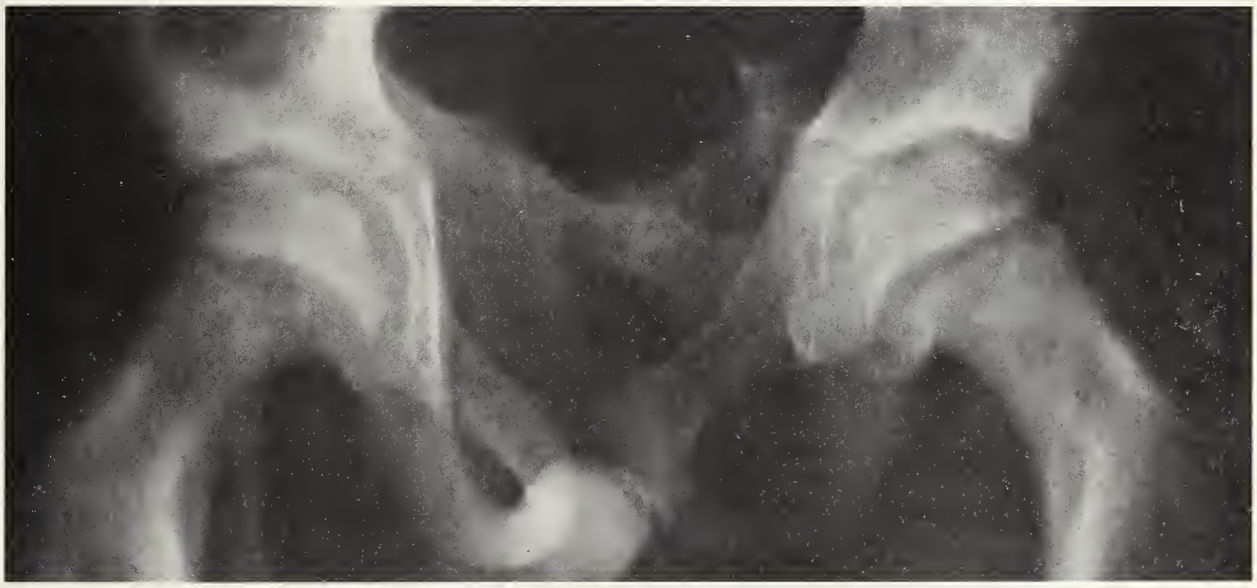


Fig. 2A. One year later, bilateral slipped capital femoral epiphyses are present.

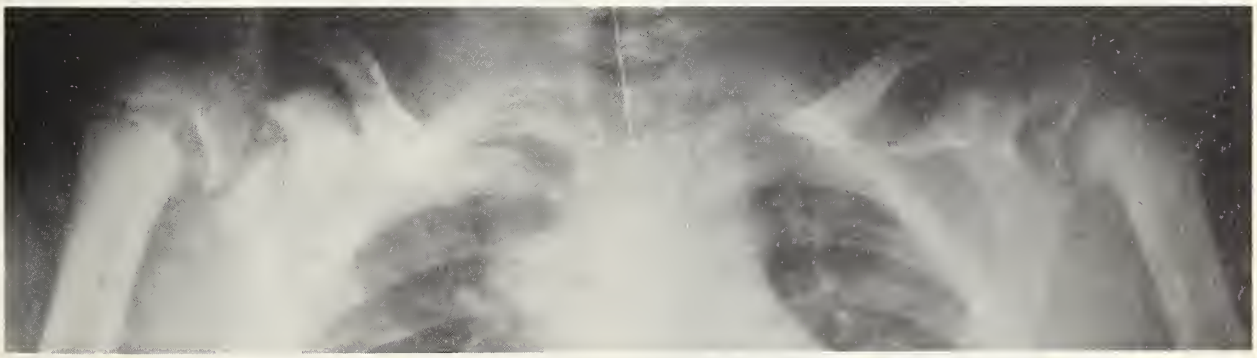


Fig. 2B. At the same time, rachitic changes of humeri and bilateral slipped capital humeral epiphyses are seen.

Non-Union of a Closed Fracture In a Child's Femoral Shaft

Jay Nogi, MD, *Richmond, Virginia*

CLOSED fractures of the femoral shaft in children heal rapidly with conventional treatment. The average fracture takes 6 to 7 weeks to heal in children between 4 and 12 years of age in the absence of severe comminution and soft tissue destruction.

Non-union of a closed femoral shaft fracture in a child is a rare event, for which an underlying etiology must be diligently sought. Systemic influences and local factors at the fracture site must be considered instrumental in retarding healing. This case presents a child with non-union of a closed femoral shaft fracture with a false aneurysm of the superficial femoral artery at the fracture site. Although children with vascular injuries following closed fractures have been documented[1], this is to the author's knowledge the first report of a child with non-union of a closed shaft fracture associated with false aneurysm.

Case Report

S. B., a 7-year-old white male, presented with gross instability of his left femur. He had sustained a closed fracture at the junction of the mid-distal third of his femoral shaft 2 months previously when struck by an automobile. Immediately Appropriate treatment had been instituted immediately, consisting of 4 weeks of Russell's skin traction followed by application of a 1½ hip spica cast for an additional 4 weeks.

On removal of the cast at 8 weeks post-injury, physical examination revealed the left thigh to be swollen and tender. The fracture site was markedly unstable. A bruit was heard along the medial aspect of the thigh at the fracture site. AP and lateral roentgenograms revealed an oblique fracture at the junction of the mid-distal third of the left femur. No callous formation was evident. Demineralization of the fracture fragments and loss of normal soft tissue planes was present. A percutaneous left femoral arteriogram revealed a 5-cm aneurysm arising from the superficial femoral artery at the level of the fracture (Fig. 1).

Following stabilization of the femur by external immobilization with the Wagner apparatus, the left thigh was explored. The superficial femoral artery was found to be partially transected at the level of the fracture. The false aneurysm was excised and continuity of the superficial femoral artery was reestablished by a 6-cm saphenous vein graft (Fig. 2).

The patient's postoperative course was uneventful. The Wagner apparatus was removed at 8 weeks and the patient placed in a cast for an additional 4 weeks. At 12 weeks, bony union was complete. At last visit, 20 months following arterial repair, the patient was engaged in full normal activity.

Discussion

Treatment of closed fractures of the femoral shaft in children by various combinations of traction and casting yield a non-union rate approaching zero percent in all series reported. Although non-union of the femoral shaft does occur in children, it has been associated most commonly with open reduction and internal fixation of closed fractures[2].

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Submitted 1-15-80.

The incidence of significant vascular injury associated with closed fractures of the femur specifically in children is unknown. A review of the literature suggests that 0.6-3% of all patients with long bone fractures had an associated vascular injury[3]. Two-thirds of these vascular injuries were the result of blunt trauma and one-third secondary to penetrating wounds. Closed fractures of the femur accounted for approximately one-third of all vascular injuries associated with long bone fractures in patients of all ages.

A false aneurysm arises from partial transection of an artery. This diagnosis may be difficult to make because only rarely are there immediate signs of distal ischemia. Evidence of an expanding arterial hematoma is usually the first clue to the prior vascular injury. The hematoma may be swollen and tender. There may be diffuse edema of the limb distal to the aneurysm. A pulsatile mass may be palpated and a bruit heard on auscultation. The arterial hematoma, when not recognized and treated early, will interfere with local tissue repair as it enlarges[4]. In the case presented, this resulted in prolonged instability and nonunion of a closed fracture in a child.

A discussion of internal versus external fixation of fractures associated with vascular injuries is beyond the scope of this presentation. Several reports[5,6] have shown that the integrity of the vascular repair is not placed in jeopardy by the use of external immobilization, as in this case.

The presence of a persistently unstable and tender extremity following adequate immobilization of the fractured limb should make clinicians aware of possible complications in fracture healing. Canale et al[7] and Watson and Whitesides[8] have suggested that this set of clinical findings has been associated with osteomyelitis in closed fractures. False aneurysms can also present in similar manner. Elevation of the temperature and white count may be noted in patients with a false aneurysm. Careful examination of the involved extremity to detect altered pulses, thrills and bruits should be undertaken in these individuals, in addition to searching for potential sepsis.

Arteriography will demonstrate the site of vascular injury and extent of collateral circulation so that appropriate corrective surgery can then be performed.

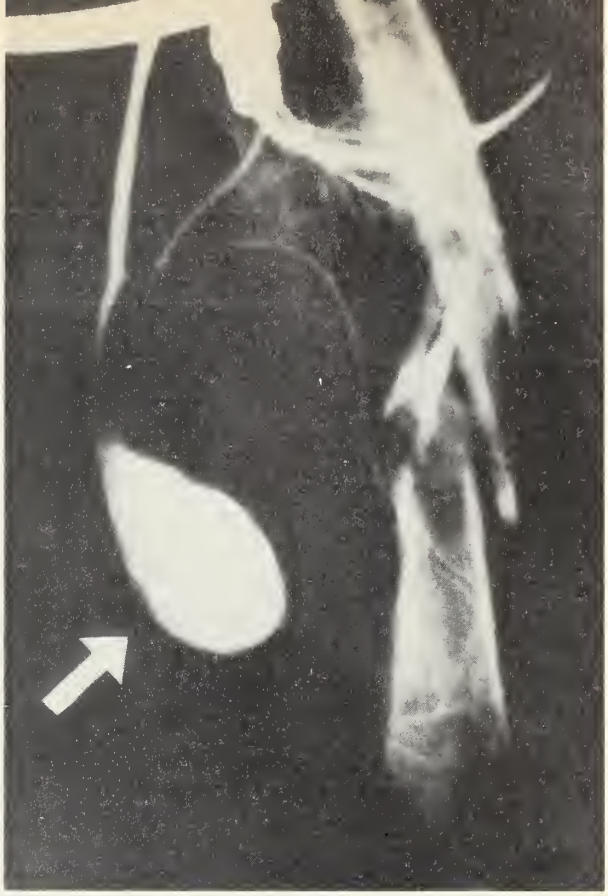
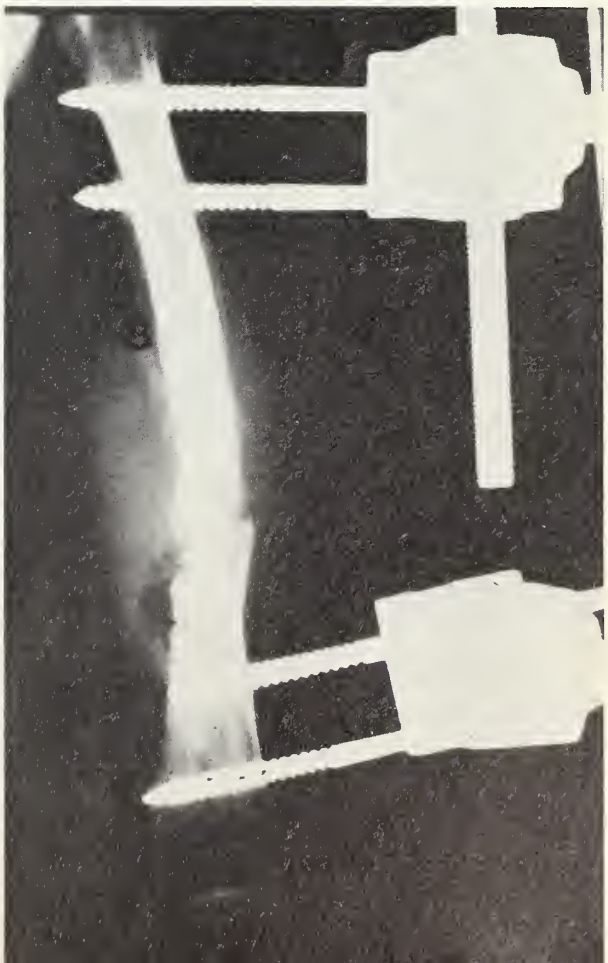


Fig. 1. Arteriogram of superficial femoral artery reveals false aneurysm (arrow) at the fracture site of the femur.

Fig. 2. Femur stabilized by Wagner external immobilization device.



Summary

A 7-year-old child sustained a non-union of a closed fracture of the femoral shaft following conventional treatment by traction and casting. Evaluation revealed a false aneurysm of the superficial femoral artery at the level of the fracture as the cause of non-union. Vascular repair resulted in a stable union of the femur. Non-union of a closed shaft fracture in

children is an unusual event and demands thorough evaluation to find the etiologic agent.

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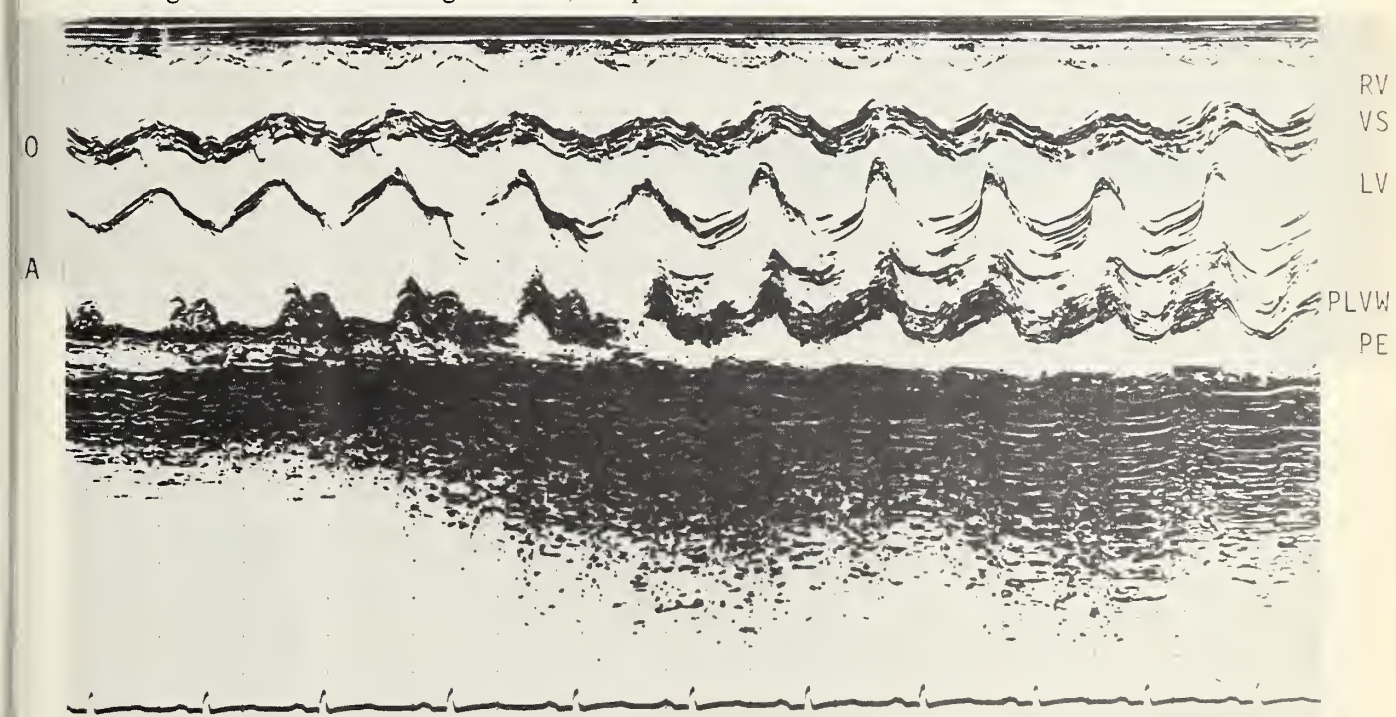
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Can You Diagnose This?

A medical puzzle prepared by Kiran B. Sagar, MD, *Richmond, Virginia*

A 64-year-old woman was admitted to the Medical College of Virginia with complications of progressively increasing shortness of breath. Physical examination revealed a blood pressure of 140/90 mmHg. Pulse was 90 per minute and regular, and the respiratory rate was 20 per minute. Neck veins were distended 5 cm above the angle of Louis. Cardiac examination was negative. Electrocardiogram (bottom tracing in figure below) showed nonspecific ST-T wave changes. Chest x-ray showed cardiomegaly and clear lung fields. In the following 12 hours, the patient became orthopneic. Physical examination revealed that the blood pressure had dropped to 115/90 mmHg and a pulsus paradoxus of 15 mmHg was present. An echocardiogram was done at the bedside and is shown below

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M-mode sweep in pericardial effusion. As transducer is moved from aortic root and left atrium on left to mitral valve and posterior left ventricle wall on right, effusion is seen behind left ventricle but does not extend to space behind left atrium. AO = aorta; LA = left atrium; RV = right ventricle; VS = ventricular septum; PLVW = posterior left ventricular wall; PE = pericardial effusion.

DIAGNOSIS/DISCUSSION ON NEXT PAGE.

DIAGNOSIS: Posterior pericardial effusion.

When the diagnosis of posterior pericardial effusion was made, a pericardial window was put in and 500 cc of fluid were removed from the patient, with marked improvement in her symptoms.

DISCUSSION

In pericardial effusion, an echocardiogram shows separation between the epicardium of the posterior wall of the left ventricle and pericardial lung interface, and between the anterior chest wall and the anterior right ventricular wall. In addition, there is a decreased amplitude of the motion of epicardium, especially in large pericardial effusions secondary to the insulation of the pericardial lung interface from the motion of the heart by the fluid.

There are important technical considerations to avoid errors in diagnosis of pericardial effusion.

- Ultrasound beam must be positioned below the mitral valve in the left ventricular cavity, and left ventricular posterior wall should be clearly defined. This will avoid mistaking the calcified mitral annulus for posterior left ventricular wall and left atrium for pericardial effusion.
- A scan from the left ventricle to the left atrium should be performed. This will help differentiate a left pleural effusion from pericardial effusion. Usually, pericardial effusion does not extend behind the left atrium but a pleural effusion does.
- Appropriate gain settings are important for identifying the pericardial effusion since the acoustic impedence of pericardial effusion may be similar to the myocardium.

The echocardiogram is extremely accurate for the diagnosis of pericardial effusion, although its reliability is determined primarily by the skill and experience of the examiner. It is possibly the most accurate technique available when compared with chest x-ray, fluoroscopy, CO_2 injection studies or radiopaque angiography and is an easily repeatable technique which can be performed at the bedside.

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Unusual Occurrence of *Shigella* Prostatitis, Successfully Treated

Gary Milkovich, RPh, *Alexandria, Virginia*, and Lawrence J. Eron, MD, *Fairfax, Virginia*

NORMALLY confined to the gastrointestinal tract, *Shigella* may occasionally produce bacteremia or urinary tract infections.[1,2] To that experience we add this case of *Shigella sonnei* prostatitis, for which we find no recorded precedent.

Case Report

A 19-year-old male underwent medial menisectomy of the left knee. Postoperatively, he developed a *Staph aureus* wound infection, treated with methicillin and cefazolin intravenously. He defervesced over a 1-week period. At this point his family brought him a roast beef sandwich from an outside restaurant, and within 24 hours he developed nausea. On the next day he developed dysuria and frequency, followed 1 day later by fever and diarrhea. Examination was normal except for a temperature of 102.4°F orally and an exquisitely tender, boggy prostate. A urinalysis revealed 1-7 WBC and 5-10 RBC per high-power field and a urine culture grew *Shigella sonnei* (100,000/cc). He was treated with oral trimethoprim-sulfamethoxazole, 2 tablets twice a day. A stool culture was obtained after antibiotics were begun and was negative for *Shigella*. No blood cultures were obtained. He defervesced after 24 hours of therapy and a repeat urine culture was negative at that time. The antibiotic was stopped after 11 days. He had no further urinary symptoms, and his urine culture remained negative.

The organism was identified by inoculation onto Tergitol 7 Agar (Difco) and the lactose-negative colonies were biotyped by the API method:1104102. Serological testing showed it to be Group D *Shigella sonnei*. The isolate was confirmed by the Bureau of Consolidated Laboratories, State of Virginia.

Discussion

Although *Shigella* bacteria usually produce a non-invasive gastroenteritis, they may occasionally cause bacteremia[1] and, rarely, focal extra-intestinal infection, most frequently of the urinary tract.[2] Our patient developed prostatitis with *Shigella sonnei* cultured from his urine while being treated for a wound infection due to *Staph aureus*. He was previously healthy with no known abnormality of the urinary tract, had not been catheterized, and had no known immunodeficiency. He developed gastrointestinal symptoms within 24 hours of the ingestion of roast beef from a local restaurant. (On the same day that the patient's positive urine culture was obtained, a 30-year-old man was seen in the hospital's emergency room with gastroenteritis and *Shigella sonnei* in his stool culture. He had eaten roast beef at the same restaurant on the previous day, further implicating the roast beef as the transmission vehicle.)

The patient was treated with trimethoprim-sulfmethoxazole, an excellent drug for treating *Shigella* infections.[3] The efficacy of this drug in the treatment of prostatitis is in part due to trimethoprim's excellent penetration into the prostate.[4]

This is, to our knowledge, the first recorded case of prostatitis due to *Shigella*.

The expert microbiological assistance of Nancy Whyte and the microbiology laboratory at Alexandria Hospital for API biotyping and serotyping of the organism is gratefully acknowledged.

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Submitted 1-21-80.

Neonatal Tetanus

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Case Report

A 16-day-old white male infant was brought to the emergency room by his mother with the complaint that "my baby is sick for two days, will not suck the bottle, is crying in a funny way and is very stiff."

The baby had been born in Mattie Williams Hospital by normal spontaneous vaginal delivery after a full gestational course. Birth weight was 7 lbs 6 oz. After an uneventful stay in the nursery the baby left the hospital with the mother on the 3rd day, and at home was looked after by the mother and grandmother. Both had been tying a 6″ × 24″ cotton belly band around the baby's abdomen to reduce a small umbilical hernia. The maternal immunization status was uncertain, perhaps only diptheria and smallpox immunizations.

When seen in the emergency room the baby appeared papery white, in continuous spasm, with a high pitched cry and a sardonic grin; he was rigid in opisthotonic posture, and the hands were tightly clenched. Rectal temperature recorded 106°F; pulse rate 180 per min and respiratory rate 24 per min. Anterior fontanel was flat, not tense. Eyes, ears, nose and throat appeared normal. Lungs were clear. Cardiovascular and gastrointestinal systems were unremarkable. There was an umbilical hernia the size of a quarter with the surface ulcerated and covered with dirty gray slough with a foul odor. The baby was subject to frequent tonic spasms on touch or sound.

The baby was moved immediately into a dark, soundless room. The umbilical swab cultured heavy growth of diptheroids but no tetanus bacilli. Blood counts, urinalysis, arterial blood gases, blood glucose, serum calcium, electrolytes, blood culture and x-ray chest were all within normal limits, except some nonspecific changes in blood count.

The baby was given 3000 units of tetanus immune (human) globulin intramuscularly immediately after admission. Intravenous infusion of 10% dextrose with electrolytes was continued for 10 days. Further management included injection of phenobarbital 3 mg/kg 6 hourly, chlorpromazine 3 mg/kg 6 hourly, aqueous penicillin 200,000 units/kg/day and diazepam 1 mg/kg/day in 4 divided doses. All medications were given intravenously except diazepam, which was given intramuscularly. Medications were continued for 14 days.

The baby's tonic spasms recurred on stimulation until the 10th day of hospitalization, then declined in frequency and intensity. The baby started sucking the nipple after the 10th day. There were occasional spikes of temperature until about the 8th day. No other complications occurred during the entire course, and the baby was discharged on the 18th day. Diptheria and tetanus immunization were given at 8 weeks of age. Mild generalized rigidity persisted on two subsequent weekly checkups but no rigidity was felt subsequently.

Discussion

Tetanus in the newborn was previously a disease of underdeveloped countries in which prenatal obstetrical care is limited, home deliveries are usual, and custom or convenience dictates the method of care of the umbilical cord. In the United States, neonatal tetanus has been a rare entity in recent years, with the reported cases mainly from rural communities. In 1965 and 1966, 54 cases of neonatal tetanus were reported in the United States, and the mortality rate was 77%.[1] In 1970 and 1971, the reported cases were only five per year. From 1975 to 1978 Baylor affiliated hospitals in Texas reported five cases of neonatal tetanus.[2]

The two main prerequisites for the occurrence of tetanus in the newborn are absence of maternal immunity and contamination of the umbilical stump with tetanus bacilli. Both criteria were fulfilled in this case. The use of a belly band could be the possible cause of contamination; for the umbilicus, covered with the unsterile cloth, provided a rich field for the growth of tetanus organisms.

The incubation period of neonatal tetanus varies less than in older age groups; symptoms may appear as early as two days or as late as 30 days.

The only way to diagnose tetanus in the newborn is to recognize the classic manifestations.[3] Retained mental clarity, rigid abdominal musculature and ability to elicit muscle spasms by tactile or painful stimulation are characteristic features and are important diagnostic points for the clinician. The diagnosis of tetanus cannot be categorically excluded on the basis of a history of adequate immunization, and laboratory investigations are of little positive help in

From Mattie Williams Hospital, 200 Washington Square, Richlands VA 24641.

Submitted 2-11-80.

view of non-specific findings. If any wounds are identified, they should be cultured for pathogens, including *Clostridium tetani*; negative results, however, do not rule out the diagnosis of tetanus.

Tetanus immune globulin is readily available in this county and is of immense help. Though the price is high, its advantages are outstanding. It does not cause anaphylactic reaction, and after a single dose the protective serum antitoxin level lasts for several weeks.[1] Thus it is much superior to the old equine tetanus antitoxin. Tetanus immune globulin is given intramuscularly in a dose of 3000 units.

Since an episode of tetanus does not confer immunity, immunization with toxoid should be initiated during the recovery phase. This should be postponed, however, until 4-6 weeks after the administration of tetanus immune globulin, when its serum antitoxin levels are no longer effective[4].

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VIRGINIA MEDICAL

EDITORIAL

Health Care Costs: A Practicing Physician's Viewpoint

DEMOCRACY is the ability of a people to guide their destinies, acting as an aggregate of individuals while respecting one another's individuality. This is in the great American tradition. Dr. Tom Nesbitt, former President of the American Medical Association, has stated,

> *Any philosophy possessed by the proponents of more government undoubtedly includes a belief in the greatest good for the greatest number. Although this belief is social in intent, its adherents are wedded to economics as well as politics. Economics unfortunately is an uncertain abstraction that deals with a set of quantities and focuses on society in the aggregate mass."*

Perhaps this is the major flaw of economics, since society is made up of real persons and social contentment reflects the sum total of quality of their lives. This individual quality is often not reflected in an economic aggregate, however.

Certainly much of health legislation attempts efficiency economics with centralized governmental planning. Some proposals would even set a fixed national budget for our society's aggregate medical expenditures. Each patient would be forced to adapt to the national strigencies imposed by the budget.

The history and practice of medicine are predicated on the philosophy of humanism, each human with unique and changing wants, needs and capabilities. Hence the one-to-one physician-patient relationship is the living heart of medicine, and the present contemporary health care debate culminates in a conflict between humanism and economic aggregates. In fact, the anti-nuclear debate is a similar issue, namely, economic aggregates vs. individual safety. Which philosophy best reflects the wants and needs of our society? National polls consistently rate individual medical care the highest in service to our society. "Doc, I want the best, I don't care what it costs", is a refrain echoed by millions of patients across our great land.

Indeed, no less a proponent for centralized aggregate economic control than Senator Kennedy has no difficulty with the philosophical distinctions when the practical individual priorities present themselves. Was it economically feasible to transport surgeons and pathologists from the Mayo Clinic and Massachusetts General Hospital to Georgetown University Hospital at the time of his son's leg cancer surgery? Mind you, I find no fault with Sen. Kennedy's action. Any practicing physician understands the agony and heartache of this and all significant medical situations. Those in the audience who have had serious personal or family illness understand these individual priorities.

Obviously, then, health programming (national or otherwise) undertaken for the aggregate public good must relate to the real medical needs of individual patients. The question is, therefore, are these philosophies compatible? I believe they are, but not in the

This article was originally presented on May 10, 1979, as a speech before the Arlington Committee of 100, a group of Arlington County citizens whose monthly meetings focus on issues of the day.

proposals and legislative actions formulated to date.

It is quite clear that, like most of my physician colleagues, I have no expertise in aggregate economic planning. Conversely, no one save the physician has the expertise, empathy and understanding of the one-to-one medical relationship. Although physician fees account for only 18% of the health dollar, it is equally clear that the physician is the cornerstone of health costs. This is so because of a unique medical position in his efforts at prevention, diagnosis and treatment.

Incredibly, physicians to date have been excluded from a primary role in health care planning. This approach by government is medically and economically untenable. I certainly have noted no historical precedent wherein the government or its pseudo-agencies have improved upon the expertise or industriousness of the private medical community.

The May 5, 1979 front page of the *Washington Star* carried three headlines that indicate the government state of the art.

CETA HEAD RESIGNS AFTER DC FINDS HIS WIFE ON PAYROLL

MILLIONS WASTED BY SMALL BUSINESS ADMINISTRATION

HEW TARGET OF HANDICAPPED

You have all seen thousands of headlines reflecting governmental ineptitude, incompetence and fraud. Can anyone truly believe government will do better in medical issues?

How about peripheral governmental agencies, such as PSRO or HSA? From my vantage point as a member of the board of trustees of the Northern Virginia PSRO, I do not believe its effectiveness in either cost or quality control justifies it existence. The local HSA fares no better; the 1978 budget of $532,591.00 supported an executive director plus 19 staff planners, none with any medical experience.

To be quite candid, I find the overall character of the HSA well intentioned but clearly without medical expertise or experience—in a word, incompetent. In the present HSA structure, any meaningful constructive relationship with hospitals and medical community is virtually impossible.

The issue of medical costs surpassing the General Consumer Index is even more intriguing. The usual governmental statistics extol rampant medical and hospital inflation. No mention is ever made concerning a complete change in quality and quantity of the medical product now delivered. No mention is made that we are dealing with a more aged population which requires more health services in both quantity and cost. I have seen no study which discusses the true statistic, namely, the cost percentage of a group of specific disease entities to income. For example, hospital and surgical costs are up, but the hospital stay for appendectomy is now 3-4 days rather than 7-10 days and long-term complications are fewer. In fact, the overall cost per income and return to occupational productivity may very well be less, not more, than in years past.

To amplify the point, while visiting the Apothecary Shop in colonial Williamsburg recently, I was informed that the fee for a physician house call in 1800 was equivalent to the rental of a 4-room house for one year.

The concrete proposals I believe will resolve the dilemma are as follows:

- If quality, economical care works for the individual, it will work for the aggregate. The planning therefore should be initiated at the individual level and progress to the aggregate, not the reverse as presently proposed.
- Since physicians are the only true judges of quality, as well as the economic initiators, logic dictates a primary role for physicians in the planning process. To date they have been largely excluded.
- The patient must bear increased responsibility for his health care (especially such preventive aspects as exercise; smoking, alcohol, and drug use; automotive speed, etc.)
- Medical priorities should shift to patient education and the preventive aspects of medical care. Insurance and tax considerations should reflect the economics of this shift. This consideration should also be given increasing emphasis in medical school curriculum.
- Medical school curricula must reflect emphasis on clinical judgment with an understanding of laboratory costs. It is well recognized in the medical community that young physicians (especially in training) tend to order diagnostic tests at a greater rate than more experienced physicians. This tendency reflects a growing dependency on lab testing for aid in confirming clinical judgments. The onerous malpractice climate exaggerates the issue as well.
- Insurance coverage must reflect the realities of the market place. The tax structure and first-dollar coverage appear to remove cost appreciations and must be revised. Too often we as physicians have heard, "Shoot the works, Doc, my insurance covers it."
- I have read estimates that increases in hospital costs as high as 25% are registered by compliance with governmental regulations, in the areas of paper work and physical plant modification. Redundant

and inappropriate government meddling must cease.

• Physician self-policing must be strengthened. Present government control of medical licensure and discipline needs improvement. Increased authority for the medical community in this matter is a must. If we are expected to police our own, we must have the authority to do so. At present the medical community has no such authority. Medical quality suffers, and on occasion patient abuse is the unfortunate consequence.

• Medical quality must be maintained. Basic standards of competence, continuing medical education, and control of high ethical standards are critical to high quality. Erosion of these principles is economically counterproductive secondary to increased complications. The medical damage is incalculable. In addition, no evidence currently exists to substantiate that non-physician or non-specialty participation in complex medical matters lowers costs even on the short term. The efforts of the Federal Trade Commission to broaden medical delivery to non-physicians or non-specialists will in the long run be counterproductive economically and cause harm to countless millions. Such governmental interference must be stopped.

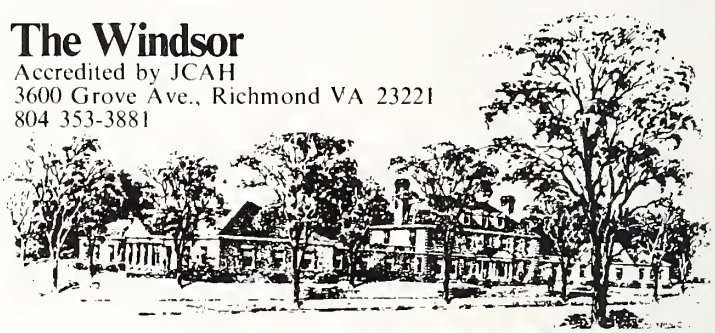
• Alternative methods of health care delivery should be explored. At present, the majority of HMO's are federally subsidized. The reasons for a lack of acceptance by the majority, I believe, are based on a lack of overall quality as well as the intervention of third-party administration. As of now, the cost effectiveness of the HMO concept has not been proved. Further study without federal subsidy and with equivalent patient populations is a must. In addition, the recent physicians' strike at Washington's Group Health Association demonstrates a decreased productivity characteristic of many salaried employees. The physician productivity in Sweden, for example, is a scandal. Eighteen hospital beds per 1000 population and one physician per 675 persons results in waits of three to seven years for elective surgery.

Cost effective programs of quality are possible. Humanism, major physician input, a return to the market place, and the elimination of counterproductive and meddlesome government regulation are key elements to success.

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VIRGINIA MEDICAL OBITUARY

Josephine Buchanan, MD

Dr. Josphine Buchanan, McLean, widely known for her work in physical medicine and rehabilitation, died June 13 at the age of 71 in the Falls Church nursing facility that had been her home for the past two years.

Born in Americus, Georgia, Dr. Buchanan was graduated from Brenau College in Gainesville, Georgia, earned a master's degree at the George Peabody College for Teachers in Nashville, Tennessee, and a medical degree from New York University's medical school. From 1944 to 1946 she served as clinical director of the Baruch Center of Physical Medicine at the Medical College of Virginia in Richmond, and in 1947 she became the first medical director of the newly established Woodrow Wilson Rehabilitation Center in Fishersville, Virginia. Later she joined the staff of Galinger Hospital, now the District of Columbia General Hospital, and before her retirement in 1973 she was chairman of the department of physical medicine and rehabilitation at the Fairfax Hospital.

The President's Committee on Employment of the Handicapped named Dr. Buchanan Physician of the Year in 1962.

Dr. Buchanan came to membership in The Medical Society of Virginia 30 years ago through the Fairfax Medical Society. She belonged also to the American Congress of Physical Medicine, the American Academy of Physical Medicine and Rehabilitation, and American and Southern Medical Associations.

Reverdy H. Jones, MD

Dr. Reverdy H. Jones, Jr., 66 years old, died June 2 at his home in Fairmont, West Virginia, where he had been associated with the Fairmont Clinic for six years. He had previously been chief of medicine at the Clarksburg, West Virginia, Veterans Administration Hospital and an associate professor at West Virginia University Medical School.

Born in Portsmouth, Virginia, Dr. Jones was graduated from Virginia Military Institute and the University of Virginia School of Medicine. He interned at Lankenau Hospital in Philadelphia and completed a three-year fellowship at the Mayo Clinic in Rochester, Minnesota. He held a commission as lieutenant commander in the US Navy and was with the marines as a medical officer during the battles of Guadalcanal and Tarawa in World War II.

Dr. Jones had been a member of The Medical Society of Virginia for 31 years and belonged also to the American College of Physicians and the American College of Cardiology.

Philip Frederick, Jr., MD

Dr. Philip Frederick, Jr., Richmond internist, died June 1 in a Richmond hospital. He was 50 years old.

A native of Atlanta, Dr. Frederick grew up in Richmond. He was graduated from the University of Richmond in 1950 and from the Medical College of Virginia in 1954. Two years of medical training were followed by service in the Navy from 1956 to 1958. On returning to Richmond he established his own practice, and in 1963 he joined Richmond Gastroenterology Associates, Inc.

Dr. Frederick was a long-time member of The Medical Society of Virginia, the Richmond Academy of Medicine and the American College of Physicians.

D. H. Robinson, Sr., MD

Dr. Dennis H. Robinson, Sr., general practitioner in Bedford for more than 40 years, died unexpectedly June 7.

Born in Shinnston, West Virginia, Dr. Robinson was a graduate of West Virginia University and earned his MD degree at Duke University. He founded and practiced alone at the Robinson Medical Clinic in Bedford until three and a half years ago, when a son, Dr. Dennis H. Robinson, Jr., joined him as a practice partner.

Dr. Robinson had belonged to The Medical Society of Virginia 43 years ago, coming to membership through the Bedford County Medical Society, and belonged also to the American College of Emergency Physicians.

WHO'S WHO IN VIRGINIA MEDICINE

Patients of **Dr. William T. Hendricks,** family practitioner in *Blacksburg,* have a choice in paying for their office visits: They can either pay Dr. Hendricks his fee in the customary way, or they can contribute the same amount of money to an organization committed to fighting hunger.

A letter on the bulletin board in Dr. Hendrick's waiting room describes the option: "When you have completed your visit here today, you are welcome to make your check out to 'Bread for the World' instead of me. If you do so, I will not bill you for today's visit. . . . "

In the 15 months the letter has been posted, two or three patients a week have made their checks payable to the charity, according to a story in the Roanoke Times & World-News. Dr. Hendricks, who says he and his family live "fairly simply" doesn't consider the lost income a big deal. He contributes to Bread for the World himself and is pleased to give others a chance to do so. He is low-keyed about the offer, though; there's no effort to persuade, and either way a patient decides is all right with him.

Bread for the World is a Christian citizens' group working to alleviate hunger through the legislative process. Dr. Henricks' brother, Bob, an economist working on a doctorate at the University of Texas and a supporter of the organization, told his brother about it. Disturbed to learn the extent of hunger in the world today, Dr. Henricks posted his letter as a way of helping to do something about it.

In Wytheville, **Dr. J. Judson Booker III** has been elected president and chief of staff of Wythe County Community Hospital; in *Richmond,* **Dr. Thomas R. Butterworth, Jr.,** has been chosen as chief of the medical staff at Chippenham Hospital and **Dr. Austin B. Harrelson** chief of staff at St. Mary's Hospital; at the Memorial Hospital in *Winchester,* the medical staff has selected **Dr. Adel B. Guirguis** as president; and **Dr. Thomas G. McWilliams,** *McLean,* has been reelected president of Arlington Hospital.

The Middleburg Lions Club's annual award for distinguished community service was given this year to **Dr. James W. Gibson,** for 22 years head of the Loudoun-Fauquier Health Center in *Middleburg.* At a Lions Club banquet at which he was guest of honor, Dr. Gibson was given a silver pitcher inscribed with his name and the particulars of its presentation. Dr. Gibson recently retired from family practice and now works in the emergency room of the Warren Memorial Hospital in Front Royal.

Dr. B. Lewis Barnett, Jr., *Charlottesville,* has been elected president of the American Board of Family Practice. Dr. Barnett is chairman of the Department of Family Practice at the University of Virginia School of Medicine.

These Medical Society of Virginia members recently achieved fellowship status in the American College of Cardiology: **Dr. Andres Alisuag, Jr.,** *Manassas;* **Dr. William M. Brown,** *Lynchburg;* **Dr. Michael L. Cherwek,** *Fredericksburg;* **Dr. John P. Parker** and **Dr. James H. Varnell, Jr.,** *Norfolk.*



His fee option helps the hungry: Dr. Henricks (and patient).
Photo courtesy Roanoke Times & World-News.

Dr. Harold J. Fallon and **Dr. Duncan S. Owen, Jr.,** *Richmond,* are co-directors of a 5-day postgraduate course to be offered September 22 to 26 at the Medical College of Virginia. Titled "Review and Update in Internal Medicine", the course is one of the distinguished American College of Physicians postgraduate series and will include sessions on infectious diseases, dermatology and general medicine, cardiology, nephrology, pulmonary diseases, immunology and connective tissue diseases, hematology and oncology, gastroenterology and endocrinology, neurology and clinical pharmacology. Site of the sessions will be Baruch Auditorium in the Egyptian Building.

Dr. James M. Moss, *Alexandria,* was given a Special Recognition Award by the American Society of Internal Medicine at its recent annual meeting in Washington, DC. Dr. Moss is a past president of The Medical Society of Virginia, the Alexandria Medical Society, the Virginia Society of Internal Medicine, the Virginia Diabetes Association and the Heart Association of Northern Virginia and is currently president of the Virginia Chapter, American College of Physicians.

After 50 years of general practice in *Suffolk,* **Dr. Edward Joyner** retired this summer, and the *Suffolk News-Herald* published a feature story in praise of the 77-year-old "senior physician of Suffolk's medical corps". In addition to his dedicated doctoring, Dr. Joyner has contributed energetically to the community's health and welfare, including long service as the city physician, coroner and jail physician, and in 1964 he was named Suffolk's First Citizen. Dr. Joyner was graduated from the Medical College of Virginia in 1928, trained in North Carolina, and then returned to practice in Suffolk, where he was born. He is a past chief of staff of Suffolk's Louise Obici Memorial Hospital.

Dr. Charles E. Horton, *Norfolk* plastic surgeon, has been honored distinctively: At its meeting early this year the Royal College of Surgeons, Glasgow, awarded him an honorary fellowship.

It's the season for new specialty society officers.

Dr. Stuart Ashman, *Virginia Beach,* is the new president of the Neuropsychiatric Society of Virginia, and **Dr. James Asa Shield, Jr.,** *Richmond,* is the group's new president elect.

Members of the Virginia Surgical Society have chosen **Dr. W. Levi Old, Jr.,** *Norfolk,* as their new president.

Dr. Reuben D. Knopf, *Roanoke,* has been installed as president of the Virginia Chapter, American College of Radiology, and **Dr. Harold M. Horden,** *Norfolk,* has assumed the presidency of the Virginia Academy of Family Physicians.

Dr. John Q. Hatten, *Newport News,* is the new president of the Virginia Obstetrical and Gynecological Society. Serving with him are **Dr. Leo J. Dunn,** *Richmond,* president-elect; **Dr. Edward E. Gahres,** *Alexandria,* vice president; and **Dr. David W. Branch,** *Roanoke,* secretary and treasurer.

The annual Distinguished Service Award of the Virginia Society of Anesthesiologists was given this year to **Dr. C. Paul Boyan,** *Richmond,* at a meeting of the society in Charlottesville. Dr. Boyan heads the Medical College of Virginia's Anesthesiology Department.

Dr. Jack R. Woodside, *Fairfax,* assumed the society's presidency at the same meeting, and **Dr. Frederick K. McCune,** *Virginia Beach,* was chosen president elect.

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Pilgrims and Politicians

The Medical Society of Virginia's annual pilgrimage to Washington to lunch with Virginia's congressmen led this year to the Mike Mansfield Room of the United States Capitol Building, where these photographs were taken. Six of Virginia's representatives and both senators turned out to meet the visitors. The roast beef was hearty, the after-lunch speeches brief, and the outing was pronounced a success. MSV Councilor C. Barrie Cook was behind the camera and kindly shared these pictures with VIRGINIA MEDICAL.

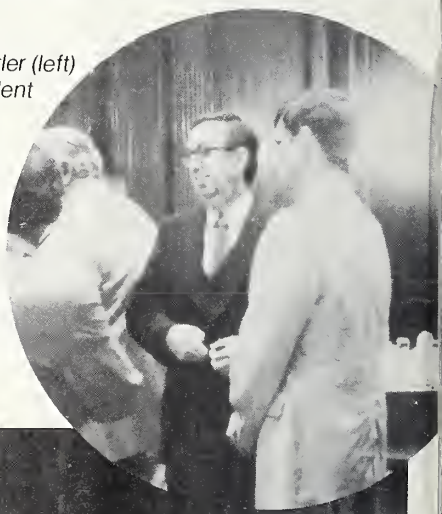


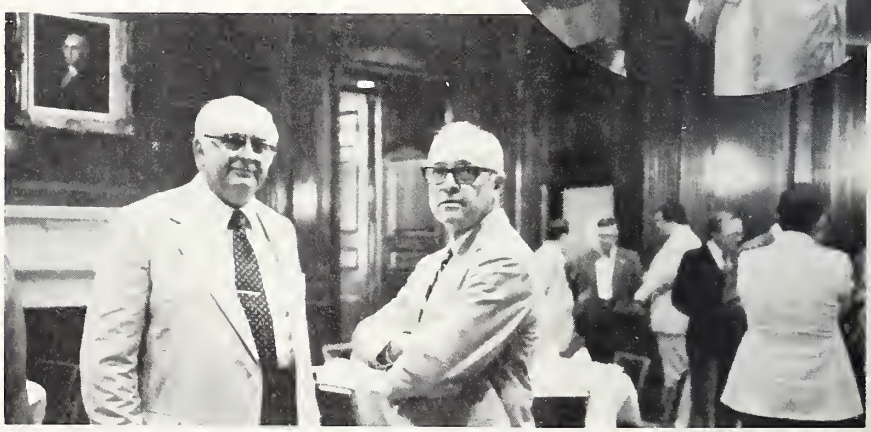
MSV President-Elect Percy Wootton and Councilor Robert C. Green, Jr.



Senator Harry F. Byrd, Jr., and (seated) MSV President George M. Nipe.

Rep. M. Caldwell Butler (left) and MSV Vice-President H. C. Alexander, III.





Michael A. Puzak (left), and MSV Councilor Gervas S. Taylor, Jr.

...S BUREAU

Two Virginians In AMA Spotlight

High office and an honorary award pulled two Medical Society of Virginia members into the spotlight at the recent meeting in Chicago of the American Medical Association.

Dr. William S. Hotchkiss was elected to the dual office of Secretary-Treasurer of the Association and Secretary of the Board of Trustees. Dr. John B. McCraw walked off with the Dr. William Beaumont Award, one of the AMA's seven major honors. Both men practice in Norfolk.

A thoracic surgeon, Dr. Hotchkiss is an experienced leader of organized medicine. For The Medical Society of Virginia, he has served long on Council; chaired many committees; was elected President in 1971; then became an AMA delegate. He was elected to the AMA's Board of Trustees three years ago.

Dr. McCraw, the first Virginian to win the Beaumont Award, took home a check for $2,500 and a plaque praising his contributions as a plastic surgeon "to the research and clinical evaluation of the use of composite myocutaneous flaps for reconstruction of defects in all parts of the body". The award was presented by the AMA's new President, Dr. Robert B. Hunter, before the House of Delegates during the convention's opening ceremonies.

No stranger to high-level awards, Dr. McCraw was chosen earlier this year as the associate travelling professor for 1980 for the American Society of Plastic and Reconstructive Surgery, to visit and lecture extensively. He is a professor of plastic surgery at Eastern Virginia Medical School.

Clinics to Combat Rise in Measles

The incidence of measles in Virginia is up decidedly this year, from 288 reported cases in all of 1979 to 300 cases in the first six months of 1980. Alarmed, Virginia's Department of Health has set up a statewide immunization program. Since most of the 1980 measles cases have occurred in persons between 10 and 20 years and since many were part of classroom outbreaks, the program will be conducted in Virginia's schools.

An immunization clinic will be available to each school whose student population shows less than 90% immunization. Measles, rubella and oral polio vaccines will be provided. They will be recommended not only for those students who have never been vaccinated but also those whose prior vaccinations do not meet today's criteria.

Parents will be asked to identify the vaccinated child's physician, so he can be notified of the immunization, and health directors are to inform local medical societies of scheduled clinics.

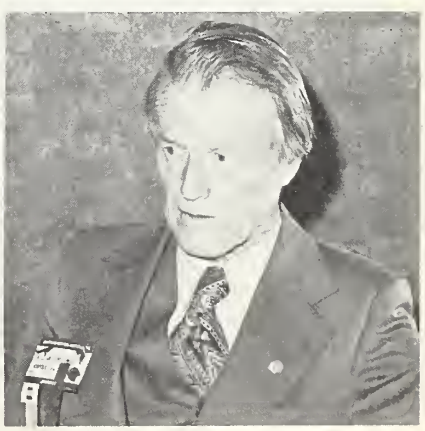
If a school's student population shows an immunization level higher than 90%, the students with deficient immunizations will be advised to seek vaccinations from either their physicians or the health department.

Head Count

- Total MSV membership was 6,016, or 69% of the 8,711 Virginia physicians registered with the state Board of Medicine, in a recent count of members in practice.
- Dues-paying members comprised 5,416 of the total; honorary and courtesy members, who do not pay dues, 600.
- MSV members who also belong to the AMA numbered 3,360, or 62% of the entire MSV membership.



Winner McCraw (left) with President Hunter. (Joe Fletcher for the AMA).



Secretary-Treasurer Hotchkiss.

Helping Virginians Opt for Health

IN Virginia, there is a growing conviction among professionals that further advances in the health of citizens will largely depend on the promotion of ways of living that are conducive to health rather than disease. It can be argued effectively that major improvement in the health of the commonwealth's citizenry will come from modifications in personal health behavior and from changes in the environment. While it is true that many environmental factors cannot be controlled personally, there is a large area of health maintenance and disease prevention in which individuals do have decisive power. Particularly in affluent societies, where there are many options, the personal choices individuals make in their daily lives are a major factor in determining whether or not they develop chronic diseases or enjoy positive health. The leading causes of death in Virginia, as in the United States, are diseases related to life style, e.g., heart disease, cancer, stroke, accidents and a number of other chronic diseases.

Despite this new focus of concern, it should be recognized that we tend, presently, to have a philosophy of prevention and health promotion than of operational technologies demonstrating significant influence on the behavior of individuals. To date, the health profession has accumulated a miniscule of "hard data" concerning the way people develop healthful patterns of behavior or the most important and tractable variables. As in the biological sciences, substantial investigation is necessary to systematically examine and study the processes that are significantly involved in assisting individuals to develop and maintain healthful life styles.

Recognizing the importance of health maintenance and disease prevention, and, also, the need to develop and test health education interventions, the Department of Health, Education, and Welfare has awarded a total of $3.6 million in federal grants to 50 state and local health departments, including the Bureau of Health Education and Information of the Virginia State Department of Health, for health education/risk reduction projects. The projects are to be aimed at reducing such risks to health as obesity, insufficient physical activity, smoking and abuse of drugs. Over the next five-year period the Bureau will: 1) identify existing health education/risk reduction activities in the state; 2) assist agencies to eliminate undersirable duplicate efforts; 3) pinpoint target groups that can benefit from health education/risk reduction programs; 4) work with agencies to establish programs to meet the needs of the target groups; and 5) establish surveillance systems to collect current data on chronic and preventable diseases related to lifestyle health behaviors. It is anticipated that in the second year of the project, ten health education/risk reduction programs will be implemented. From then on, new risk reduction programs will be implemented continuously.

The assignment of this project to the Bureau of Health Education and Information corrects a major shortcoming of the past, in that heretofore responsibility for health education and promotion has, for the

most part, rested everywhere—and thus nowhere. The Bureau will have the task of linking the efforts of organizations and individuals within and even beyond what is traditionally considered the health care sector.

Although health promotion and prevention interventions have not been tested and evaluated, sufficient knowledge exists to provide an educated start toward the challenge of maintaining and improving the health of Virginia's citizens. Given the non-debatable statistics on causes of death, and given the equally solid evidence that personal health-related habits are the precursors and, in actuality, important determinants of the diseases and deaths with which those habits are directly linked, the potential for affecting the health of Virginians is obvious.

The efficacy of health education/risk reduction interventions rests on two hypotheses. First, given a particular disease for which there are identified risk factors, elimination of one or more of these factors will reduce an individual's chance of acquiring the disease; for example, elimination of smoking and lowering the cholesterol level will reduce an individual's risk of myocardial infarction. The second hypothesis is that participation in a health education intervention will cause an individual voluntarily to make behavior changes that reduce that person's risk of acquiring a certain disease.

A number of public and private agencies and individuals in Virginia offer risk reduction or health enhancing programs. Some programs are aimed at

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changing several interrelated factors, while others address one type of behavior change. The variety of existing programs in Virginia involving smoking cessation, weight reduction, stress management and other risk factors provides a basis to build upon and creates a need for an inventory of what is available.

The success of the health education/risk reduction project will depend ultimately on the effectiveness of the educational programs that are offered to the various target populations. The task of eliminating preventable risks by changing personal behaviors is formidable indeed. The selection of the process and content for each educational intervention will require close scrutiny. Certainly the educational prescriptions that are applied in each situation should be chosen only after the following steps have been completed: 1) data collection; 2) identification of desired patient behaviors; 3) identification of the etiological factors related to the desired behaviors; and 4) planning for evaluation strategies.

The magnitude of the project is awesome. But it offers, perhaps for the first time in Virginia, an opportunity to mobilize the state's resources to assist high risk individuals and groups to attack such problems as smoking, obesity, drug abuse, physical inactivity, poor diet, and inadequate coping skills. A coordinated and intense effort to identify individuals at high risk, and then to assist them in making appropriate behavior changes, can produce healthier, more productive Virginians and reduce expenditures related to illness, disability and premature death.

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LETTERS TO THE EDITOR

Questions a Radiation Point of View

The article in the June issue of VIRGINIA MEDICAL entitled, "Point of View—A Nuclear Accident in Perspective", by Drs. Baker and Riddervold,[1] requires some comment. The authors' conclusion that "the population in the vicinity of Three Mile Island is at no significantly greater risk of cancer or genetic sequelae. . . . " is not valid. While the facts cited are accurate, their line of reasoning is illogical and muddles the issue.

Drs. Baker and Riddervold estimate that 2 million people within a 50-mile radius were at risk and were exposed to an average dose of 1.5 millirem. What they are neglecting to point out is that some people were at greater risk and were exposed to significantly larger doses of radiation than others. Obviously, the people closer to the containment building and downwind suffered greater exposure. On the Friday following the accident a helicopter "measured a dose rate of 1.2 rems per hour (1200 millirem), 130 feet above the Three Mile Island vent stack. It was this event that triggered the first recommendation by the Nuclear Regulatory Commission in Washington that people be evacuated from the area around Three Mile Island."[2]

Clearly, the people in close proximity and downwind at this time may have suffered significant doses of radiation even if this was not reported by monitors.

The line of illogic would be analogous to saying that if a tank of poisonous gas exploded and 2 million people within a 50-mile radius were exposed, no one would have received serious injury because the average exposure would have been small. Obviously, those who received larger exposure would have more injury than those who received less. It is interesting to observe how one can draw the conclusions one likes by playing with the statistics. Not being a valid description of the real situation, their conclusions are not relevant.

Before closing accounts on the risks faced by the population in the vicinity of Three Mile Island, it is important to point out that only good fortune, rather than safety measures or planning, prevented a much greater catastrophe. Quoting Floyd Martin's recent article in the May *Audobon,* "The containment building was only partly effective in containing the accumulated radioactivity. In the days following, there were controlled and uncontrolled releases of small amounts of radioactivity to the environment. These releases were caused by the transfer of radioactive coolant water from the containment building and

subsequent venting to the atmosphere. Some were deliberate releases to reduce dangerously high pressure buildups. Some were uncontrolled when automatic systems opened relief valves. In all, the theory of reactor containment and isolation was not working well. That the releases turned out to be small enough to pose little health hazard was not reassuring, considering the enormous potential for great danger to the public. At Three Mile Island, as in all operating nuclear plants, the core contained an inventory of long-lived fission products equivalent to that of several hundred Hiroshima-size atomic bombs."[3]

Martin Albert, MD

211 East High Street
Charlottesville VA 22901

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1. Baker DG, Riddervod HO: A nuclear accident in perspective. Va Med 107:437–439, 1980
2. Martin F: Supercritical, a nuclear excursion. Audobon, May 1980, pp 80–105

The authors reply:

We appreciate Dr. Albert's concern. It is precisely this expression of concern that provided the impetus for the preparation of our article. Dr. Albert claims that the people closer to the escaped radioactivity would have received the larger exposure. This is, of course, quite true. The largest accumulated dose at ground level was measured at 83 millirems, recorded half a mile northeast of the site. The largest dose estimated to have been received by any individual was a single person exposed to possibly as much as 37 millirems. It is true that the helicopter measured 1200 millirems at a height of 130 feet above the stack, but there were no people exposed to this dose rate; in fact, of the 2 million people at risk a proportion of those received no radiation dose at all.

Dr. Albert claims our reasoning is illogical since we used exposure dose averaged over the entire population at risk. This is the most accurate information we have and almost certainly overestimates the risk, since a proportion of these 2 million people would not have been exposed at all.

We did base our report on the best available measurements of radiation and not on an emotional bias or a projection of what might have happened. Certainly the accident at Three Mile Island was a disaster. The disaster was a financial and emotional one and certainly not one related to radiation damage to the population surrounding Three Mile Island. We leave the readers to judge which of these considerations is the illogical one.

Donald G. Baker, PhD
Hans O. Riddervold, MD

Saga of a Doctor Driven to Drink

Recently I chatted with a medical school classmate and his RN wife, both of whom have spent their 20 professional years in a prestigious university medical center.

The physician saw nothing illogical in requiring more and more education and training for MDs while simultaneously allowing non-medical practitioners to assume medical functions with little or no medical training. He reasoned that if we physicians make mistakes, how can we assert that the public needs protection from those who would assume medical functions without medical supervision and without full and proper training? He was quite certain of his point of view, and he was quite willing to express it. Since he has the mantle of a prestigious medical institution about his shoulders, his remarks will be savored and believed by the public, who will not know (or care) that he has no grass roots experience to test his opinions.

His RN wife was enthusiastic about the many new fields for nursing. In particular she waxed on about nurse practitioners in private practice, seeing patients in their homes, treating them and referring them to physicians as the nurse sees fit. Broaching the subject of safety for the patient and liability for the practitioner, I asked who would be liable if the patient was not promptly and properly referred to a physician?

Her earnest response first flabbergasted and then saddened me. It was the simplistic answer believed all too often by both the ignorant and the educated: "Of course the nurse practitioner will always refer a patient to a physician promptly and properly. ANYONE CAN LOOK AT A PATIENT AND SEE IF HE IS SICK ENOUGH TO NEED A DOCTOR."

Totally depressed, I took a fresh drink—a double.

Henry S. Campell, MD

PO Drawer 3151
Martinsville VA 24112

Sees Heavy Price in Ketone-Producing Diets

Nurtured by the human desire for a quick, easy answer to a long, difficult problem, weight loss clinics have sprung up, like mushrooms, overnight throughout the country to fill a need which physicians may be neglecting.

Obesity is not recognized officially as a disease by medicine but is left to flounder in the category of a self-inflicted condition. Even though all medically trained professionals are quick to agree that obesity

strongly affects the onset or course of many bona fide diseases (diabetes, hypertension, heart disease, gall bladder disease and even arthritis) they lack enthusiasm in tackling the overweight problem.

This may be explained by the fact that the overweight person has a personality similar to an alcoholic, and in my experience most doctors tend to avoid the treatment of alcoholism if it is possible to refer it. Both personalities tend to skip and ignore appointments, consume a great deal of time, be full of excuses and revert to previous behavior patterns.

Avoidance by the doctor of the obesity personality traits is not the only reason. Many doctors have no particular interest or special nutritional training which equips them to confidently approach the problem. A study done at Johns Hopkins University showed that 50% of doctors have a serious interest in dealing with obesity, 25% think overweight patients are a "pain in the neck", and the remaining 25% don't want to be bothered with overweight patient problems.

The zeal of the overweight public to lose weight for health or cosmetic reasons and the apathy of the professional community creates a perfect brew for the fermentation of the weight control clinics.

The backbone of these clinics is the ability to advertise in half page ads the quick weight loss to be expected under their systems. This is the perfect advertising "hook" for the poor, discouraged overweight who is looking for quick relief from his misery.

Quick weight loss may be accomplished in only one of two ways: low calorie dieting or increasing physical activity.

Exercise is not appealing to a person who is already handicapped in the ability to exercise, so the dieting route is the only way to go. This miraculous shedding of excess fat by dieting must be accomplished in one of two ways: stripping a well-balanced, nutritionally sound diet down to the bare minimum of calories or eliminating almost all of the diet's carbohydrate calories. This latter course is the usual course the weight loss clinic employs, but it is the most dangerous, because it leads to a ketone-producing diet.

Several years ago, Dr. Atkins shocked the knowing medical community with his "diet revolution", which was published for use without medical supervision or blessing. The American Medical Association was quick to condemn the diet as medically hazardous. Why? Because it was a ketone-producing diet. Some of us may need to go back through the cobwebs of our physiology and biochemistry training to remember what happens when the body is forced to produce ketone under carbohydrate restricting conditions.

When the body is deprived of carbohydrate in incoming food, it must look to other sources of all important glucose. The first source is glycogen, which is at best a short term reserve. When the glycogen is depleted, the reservoir of body fat and muscle protein become the main sources of supply. This system is relatively inefficient as the only source of glucose, and the body fat is "burned" up so rapidly it is metabolized incompletely. This results in the production of certain unnatural materials called ketone bodies.

The first of these ketone bodies is acetone, a cousin of alcohol but more dangerous when ingested. It is the same acetone found in nail polish remover. Acetone is a poison. About six jiggersful ingested by an adult can prove lethal.

The other two ketone bodies are strong body acids (β-hydroxybutric and acetoacetic acid) and produce a state of acidosis. Dehydration follows the acidosis if the lungs and kidneys are unable to correct it. Along with the loss of fluid, potassium is lost, which is necessary for normal muscle function. The resulting hypopotassemia affects cardiac muscle contraction and impulse conduction. This can lead to cardiac muscle fibrillation or even arrest with resultant death.

Can a person diet himself to death? It was felt that this was the contributing factor in the deaths of seven dieters who were on a low-calorie-high-protein diet.

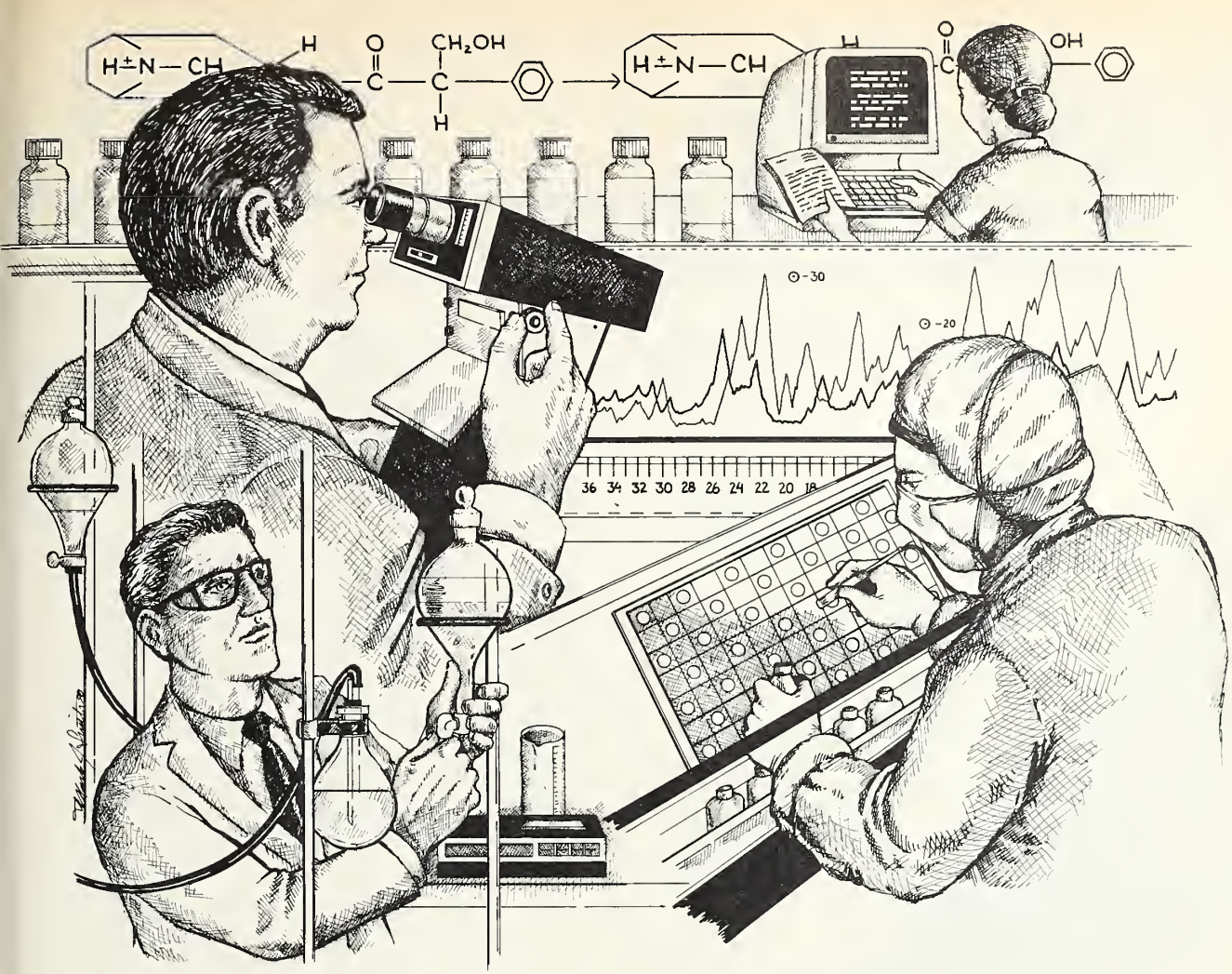
Other less serious symptoms of a ketone-producing diet are: general tiredness, "just not feeling well", abrupt or gradually increasing weakness, dull headache, abdominal pain, increased breathing, nausea and vomiting and loss of appetite.

Many of the new non-professional "diet centers" consider this loss of appetite to be a great advantage. The same could be accomplished by any other sickness which could cause you to stop eating.

In a patient's search for a reducing diet, if the physician is unwilling to render the care, he may at least protect the health of his patient by condemning dieting techniques which result in the formation of ketone bodies. He may not be able to persuade against the fad but, at least when he sees the patient in the hospital, he will be able to shake his finger and say, "I told you so."

W. Glenn Allen, Jr., MD

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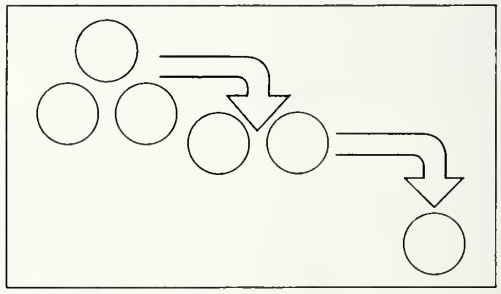
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*Sellers EM: *Drug Metab Rev* 8(1):5-11, 1978



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Northern Virginia Medical Society

Thomas W. Daugherty, MD, Orthopedic Surgery, 20 S. Stewart St., Winchester VA 22601

Philip J. Klemmer, MD, Internal Medicine/Nephrology, 801 S. Louson St., Winchester VA 22601

Portsmouth Academy of Medicine

Yoon Keun Choy, MD, Anesthesia, 3419 King Street, Portsmouth VA 23707

Vasken Kevork Tenekjian, MD, Cardiovascular & Thoracic Surgery, 620 London Blvd., Portsmouth VA 23704

Prince William County Medical Society

Jamison K. Francis, MD, Dermatology, 14904 Jefferson Davis Highway, Woodbridge VA 22191

Richmond Academy of Medicine

Thomas M. Arrington, MD, General Practice, 9603 Gayton Road, Richmond VA 23233

Peter P. Blakey, MD, Pediatrics, 8710 Choctaw Road, Bon Air, VA 23235

Lawrence E. Blanchard, III, MD, Dermatology, 5600 Grove Ave., Richmond VA 23226

Stephen Clement, MD, Gastroenterology, 7601 Forest Ave., Richmond VA 23229

Richard E. Golden, MD, Neurology, 5402 New Kent Road, Richmond VA 23225

Hans-Bartold Krebs, MD, Obstetrics/Gynecology, MCV Station, Richmond VA 23298

Julia Hines Mills, MD, Pediatrics, 1305 Avondale Ave., Richmond VA 23227

Robert Patrick Moore, MD, Internal Medicine, 7 Rose Hill Road, Richmond VA 23229

Continued on page 599.

Tenuate ©
(diethylpropion hydrochloride NF)

Tenuate Dospan®
(diethylpropion hydrochloride NF) controlled-release

AVAILABLE ONLY ON PRESCRIPTION

Brief Summary

INDICATION: Tenuate and Tenuate Dospan are indicated in the management of exogenous obesity as a short-term adjunct (a few weeks) in a regimen of weight reduction based on caloric restriction. The limited usefulness of agents of this class should be measured against possible risk factors inherent in their use such as those described below.

CONTRAINDICATIONS: Advanced arteriosclerosis, hyperthyroidism, known hypersensitivity, or idiosyncrasy to the sympathomimetic amines, glaucoma. Agitated states. Patients with a history of drug abuse. During or within 14 days following the administration of monoamine oxidase inhibitors, (hypertensive crises may result).

WARNINGS: If tolerance develops, the recommended dose should not be exceeded in an attempt to increase the effect; rather, the drug should be discontinued. Tenuate may impair the ability of the patient to engage in potentially hazardous activities such as operating machinery or driving a motor vehicle; the patient should therefore be cautioned accordingly. *Drug Dependence*: Tenuate has some chemical and pharmacologic similarities to the amphetamines and other related stimulant drugs that have been extensively abused. There have been reports of subjects becoming psychologically dependent on diethylpropion. The possibility of abuse should be kept in mind when evaluating the desirability of including a drug as part of a weight reduction program. Abuse of amphetamines and related drugs may be associated with varying degrees of psychologic dependence and social dysfunction which, in the case of certain drugs, may be severe. There are reports of patients who have increased the dosage to many times that recommended. Abrupt cessation following prolonged high dosage administration results in extreme fatigue and mental depression; changes are also noted on the sleep EEG. Manifestations of chronic intoxication with anorectic drugs include severe dermatoses, marked insomnia, irritability, hyperactivity, and personality changes. The most severe manifestation of chronic intoxications is psychosis, often clinically indistinguishable from schizophrenia. *Use in Pregnancy*: Although rat and human reproductive studies have not indicated adverse effects, the use of Tenuate by women who are pregnant or may become pregnant requires that the potential benefits be weighed against the potential risks. *Use in Children*: Tenuate is not recommended for use in children under 12 years of age.

PRECAUTIONS: Caution is to be exercised in prescribing Tenuate for patients with hypertension or with symptomatic cardiovascular disease, including arrhythmias. Tenuate should not be administered to patients with severe hypertension. Insulin requirements in diabetes mellitus may be altered in association with the use of Tenuate and the concomitant dietary regimen. Tenuate may decrease the hypotensive effect of guanethidine. The least amount feasible should be prescribed or dispensed at one time in order to minimize the possibility of overdosage. Reports suggest that Tenuate may increase convulsions in some epileptics. Therefore, epileptics receiving Tenuate should be carefully monitored. Titration of dose or discontinuance of Tenuate may be necessary.

ADVERSE REACTIONS: *Cardiovascular*: Palpitation, tachycardia, elevation of blood pressure, precordial pain, arrhythmia. One published report described T-wave changes in the ECG of a healthy young male after ingestion of diethylpropion hydrochloride. *Central Nervous System*: Overstimulation, nervousness, restlessness, dizziness, jitteriness, insomnia, anxiety, euphoria, depression, dysphoria, tremor, dyskinesia, mydriasis, drowsiness, malaise, headache; rarely psychotic episodes at recommended doses. In a few epileptics an increase in convulsive episodes has been reported. *Gastrointestinal*: Dryness of the mouth, unpleasant taste, nausea, vomiting, abdominal discomfort, diarrhea, constipation, other gastrointestinal disturbances. *Allergic*: Urticaria, rash, ecchymosis, erythema. *Endocrine*: Impotence, changes in libido, gynecomastia, menstrual upset. *Hematopoietic System*: Bone marrow depression, agranulocytosis, leukopenia. *Miscellaneous*: A variety of miscellaneous adverse reactions has been reported by physicians. These include complaints such as dyspnea, hair loss, muscle pain, dysuria, increased sweating, and polyuria.

DOSAGE AND ADMINISTRATION: Tenuate (diethylpropion hydrochloride): One 25 mg. tablet three times daily, one hour before meals, and in midevening if desired to overcome night hunger. Tenuate Dospan (diethylpropion hydrochloride) controlled-release: One 75 mg. tablet daily, swallowed whole, in midmorning. Tenuate is not recommended for use in children under 12 years of age.

OVERDOSAGE: Manifestations of acute overdosage include restlessness, tremor, hyperreflexia, rapid respiration, confusion, assaultiveness, hallucinations, panic states. Fatigue and depression usually follow the central stimulation. Cardiovascular effects include arrhythmias, hypertension or hypotension and circulatory collapse. Gastrointestinal symptoms include nausea, vomiting, diarrhea, and abdominal cramps. Overdose of pharmacologically similar compounds has resulted in fatal poisoning, usually terminating in convulsions and coma. Management of acute Tenuate intoxication is largely symptomatic and includes lavage and sedation with a barbiturate. Experience with hemodialysis or peritoneal dialysis is inadequate to permit recommendation in this regard. Intravenous phentolamine (Regitine®) has been suggested on pharmacologic grounds for possible acute, severe hypertension, if this complicates Tenuate overdosage.

Product Information as of April, 1976

MERRELL-NATIONAL LABORATORIES Inc.
Cayey, Puerto Rico 00633

Direct Medical Inquiries to
MERRELL-NATIONAL LABORATORIES
Division of Richardson-Merrell Inc.
Cincinnati, Ohio 45215, U.S.A.

Licensor of Merrell®

References: 1. Citations available on request from Medical Research Department, MERRELL-NATIONAL LABORATORIES, Cincinnati, Ohio 45215. 2. Hoekenga, M.T., O'Dillon [Dillon], R.H., and Leyland, H.M. A comprehensive review of diethylpropion hydrochloride. In, Central Mechanisms of Anorectic Drugs, S. Garattini and R. Samanin, Ed., New York, Raven Press, 1978, pp. 391-404.

Merrell

9-4672 (Y957A)

Overweight may not always be simple... complications can develop.*

Complicated or not...

Tenuate® Dospan® ©IV

(diethylpropion hydrochloride NF)

75 mg. controlled-release tablets



A useful short-term adjunct in an indicated weight loss program.

Overweight patients in certain diagnostic categories often require strict appetite control and a successful program of weight reduction may tend to diminish the incidence or severity of the complications in some patients. Diethylpropion hydrochloride has been reported useful in such patients and while it is not suggested that Tenuate itself in any way reduces the complications of overweight, it may have a useful place as a short-term adjunct in a prescribed dietary regimen. **Tenuate should not be administered to patients with severe hypertension; see additional Warnings and Precautions on the opposite page.**

In uncomplicated overweight.

Many patients, on the other hand, present with excess fat but no disease. While this condition is often termed uncomplicated obesity, complications of both a social and a psychologic nature may be distressingly real for the patients. In these cases, a short-term regimen of Tenuate can help reinforce your dietary counsel during the important early weeks of an indicated weight loss program.

Clinical effectiveness.

The anorectic effectiveness of diethylpropion hydrochloride is well documented. No less than 16 separate double-blind, placebo-controlled studies attest to its usefulness in daily practice.[1] And the unique chemistry of Tenuate provides "...anorectic potency with minimal overt central nervous system or cardiovascular stimulation."[2] Compared with the amphetamines, diethylpropion has minimal potential for abuse.

Tenuate—it makes sense. And it's responsible medicine.

*Studies have shown that obesity is associated with an increased incidence of hypertension, symptomatic heart disease, adult-onset diabetes, and other diseases.

Merrell

For prescribing information see opposite page.

In G.I. therapy



Adjunctive Librax®

Each capsule contains
5 mg chlordiazepoxide HCl
and 2.5 mg clidinium Br

antianxiety/antisecretory/antispasmodic

for adjunctive therapy of duodenal ulcer* and irritable bowel syndrome*

Librax®

Please consult complete prescribing information, a summary of which follows:

* **Indications:** Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the indications as follows:
"Possibly" effective: as adjunctive therapy in the treatment of peptic ulcer and in the treatment of the irritable bowel syndrome (irritable colon, spastic colon, mucous colitis) and acute enterocolitis.
Final classification of the less-than-effective indications requires further investigation.

Contraindications: Glaucoma, prostatic hypertrophy, benign bladder neck obstruction, hypersensitivity to chlordiazepoxide HCl and/or clidinium Bromide.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants, and against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Physical and psychological dependence rarely reported on recommended doses, but use caution in administering Librium® (chlordiazepoxide HCl/Roche) to known addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions) reported following discontinuation of the drug.

Usage in Pregnancy: **Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy. Advise patients to discuss therapy if they intend to or do become pregnant.**

As with all anticholinergics, inhibition of lactation may occur.

Precautions: In elderly and debilitated, limit dosage to smallest effective amount to preclude ataxia, oversedation, confusion (no more than 2 capsules/day initially; increase gradually as needed and tolerated). Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider pharmacology of agents, particularly potentiating drugs such as MAO inhibitors, phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions reported in psychiatric patients. Employ usual precautions in treating anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship not established.

Adverse Reactions: No side effects or manifestations not seen with either compound alone reported with Librax. When chlordiazepoxide HCl is used alone, drowsiness, ataxia, confusion may occur, especially in elderly and debilitated; avoidable in most cases by proper dosage adjustment, but also occasionally observed at lower dosage ranges. Syncope reported in a few instances. Also encountered: isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent, generally controlled with dosage reduction; changes in EEG patterns may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice, hepatic dysfunction reported occasionally with chlordiazepoxide HCl, making periodic blood counts and liver function tests advisable during protracted therapy. Adverse effects reported with Librax typical of anticholinergic agents, *i.e.*, dryness of mouth, blurring of vision, urinary hesitancy, constipation. Constipation has occurred most often when Librax therapy is combined with other spasmolytics and/or low residue diets.

ROCHE®

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Manati, Puerto Rico 00701

John Garrett Muller, MD, General Practice, 6507 Erhart Road, Richmond VA 23225

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Michael Scheflan, MD, Plastic Surgery, Box 154, MCV Station, Richmond VA 23298

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William Douglas Routh, MD, Internal Medicine, 2102 Crystal Spring Ave., SW, Roanoke VA 24014

Nancy Mae Welch, MD, Pediatrics, 1046 Finney Drive, Vinton VA 23179

Southside Virginia Medical Society

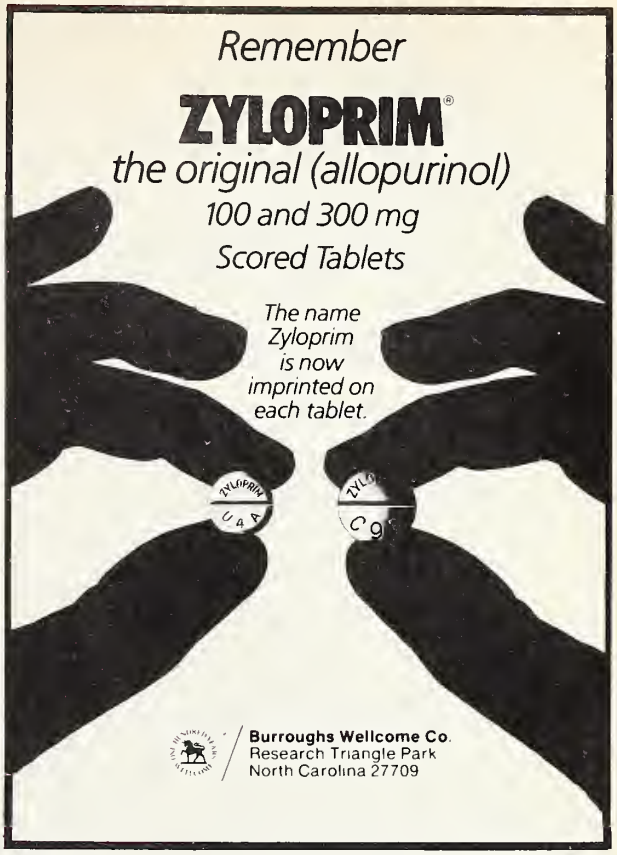
Chakkris Siriwatharangoon, MD, Obstetrics/Gynecology, 400 Woodland Road, Hopewell VA 23860

Virginia Beach Medical Society

Warren H. Foer, MD, Neurological Surgery, 1821 Old Donation Parkway, Virginia Beach VA 23454

Juan J. Ponce, MD, Emergency Medicine, 632 Thalia Point Road, Virginia Beach VA 23452

John A. Williamson, MD, Orthopedic Surgery, 1100 First Colonial Road, Virginia Beach 23454



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Hurry! hurry! hurry! to make your hotel reservations for the 133rd Annual Meeting of The Medical Society of Virginia, Williamsburg Conference Center, November 6-9, 1980.

A pool of rooms is being held by Colonial Williamsburg's hotel division for Medical Society of Virginia members and friends who plan to attend the 1980 Annual Meeting. Here for your convenience is a reservation blank. Stake out your accommodations NOW!

- Reservations should be made no later than October 6, 1980. All unreserved rooms are subject to release on that date.
- Each reservation must be accompanied by a $35 deposit per room.
- Hotels will make every effort to take care of early arrivals, but some rooms may not be available until mid-afternoon due to varying checkout hours.

- For the first time, the scientific program will offer 10 Category I credits (the total annual Category I requirement) in a new 3-day format occurring Friday afternoon, Saturday morning and Sunday morning (November 7, 8 and 9).
- The exhibit hall will be open all day Friday, November 7, and Saturday morning, November 8.
- Complete program will be bound into VIRGINIA MEDICAL's October issue.

Make check payable to Colonial Williamsburg Foundation.
Mail reservation to Group Reservations Manager, Drawer B, Williamsburg, Virginia 23185.

ANNUAL MEETING OF THE MEDICAL SOCIETY OF VIRGINIA, NOVEMBER 6-9, 1980

Colonial Houses:	**Single____$60.00**	**Double____$60.00**
Motor House:	**Single____$45.00**	**Double____$45.00**
Providence Hall:	**Single____$87.00**	**Double____$87.00**
Williamsburg Inn	**Single____$77.00**	**Double____$77.00**
Williamsburg Lodge	**Headquarters for members of House of Delegates**	

I shall arrive in Williamsburg _____ and depart _____

Check in the amount of $_____ attached ($35 deposit per room required)

Name _____
(print or type)

Address: _____

_____

Telephone _____ **Date Mailed** _____

MEETINGS ABOUT MEDICINE

September 18-19
3rd Annual Conference on Aging and Health (Salem, Virginia, Veterans Administration Medical Center and University of Virginia School of Medicine), VA Center, *Salem.* Dr. Frank Brochu, VA Medical Center, Salem VA 24153, (703) 982-2463.

September 26-27
3rd Annual Perinatal Conference: Perinatal Infections (Medical College of Virginia/VCU), Holiday Inn, I-64 West End, *Richmond.* 6 hrs. Cat. 1. Fee: physicians, $85; health care professionals, $60; visiting housestaff, $15. Kathy E. Johnson, Box 48, MCV Station, Richmond VA 23298, (804) 786-0494.

September 26
Symposium on Exercise and Health (Lynchburg Academy of Medicine), E.C. Glass High School, *Lynchburg,* 1-5 PM. 4 hrs. Cat. 1 credit, no fee. William H. Barney, MD, (804) 528-3113.

September 25-27
Granulomatous Disease of the Lung (Virginia Lung Association), Sheraton Beach Inn, *Virginia Beach.* 9 hrs. Cat. I. Fee, $50. Taylor R. Copping, PO Box 7065, Richmond VA 23221, (804) 335-3295.

September 26-27
Behavioral Aspects of Adolescent Health Care (University of Maryland School of Medicine), Sheraton Inn, *Ocean City, Maryland.* Betty Saar, Room 300, 10 S. Pine St., Baltimore MD 21201, (301) 528-3956.

September 22-26
Review and Update in Internal Medicine (American College of Physicians and Medical College of Virginia), Baruch Auditorium, *Richmond.* Fee: ACP members and fellows, residents and research fellows, $280; ACP associates, $210; non-members, $370. Dr. Duncan S. Owen, Jr., Box 647, MCV Station, Richmond VA 23298, (804) 786-9341.

September 26-27
Intraocular Lens Implantation Surgical Symposium (Bethesda Hospital and University of Cincinnati), *Cincinnati, Ohio.* 10 hrs. credit. Fee: Physicians, $150; residents, $75. Thomas O'Connor, Bethesda Hospital, 619 Oak St., Cincinnati OH 45206, (513) 559-6337.

October 4
Conference on Diagnosis and Management of Breast Cancer (Potomac and Prince William Hospitals, American Cancer Society), *Quantico.* Mary Ann Phelps, (703) 670-1502.

October 4-5
Seminars in Neuro-Ophthalmology (Medical College of Virginia), *Williamsburg.* 9 hrs. Cat. 1. Fee: MDs, $175; residents, interns, $60. Kathy E. Johnson, (804) 786-0496.

October 8
Problems for Physicians in Caring for the Elderly (University of Maryland School of Medicine), *Baltimore.* Program of CME, 10 S. Pine St., Baltimore MD 21201, (301) 528-3956.

October 9-10
Coal Workers Pneumoconiosis (East Tennessee State University College of Medicine, Tennessee and Virginia Lung Associations), *Bristol, Tennessee.* 8½ hrs. credit. Fee: $60. Shirley Bogart at the College, (615) 928-6426, Ext. 204.

October 12-14
1980 Clinical Congress of the American College of Surgeons, *Atlanta, Georgia.* Hour-for-hour Cat. 1 credits. Fee: Non-fellows, $190; surgical residents, $95. Dianne O'Rourke, 55 E. Erie St., Chicago IL 60611, (312) 664-4050, Ext. 324.

October 13-14
Tennessee Valley Medical Assembly, Choo Choo Convention Center, *Chattanooga, Tennessee.* F. M. Richardson, Suite 313, 960 E. Third St., Chattanooga TN 37403.

October 15
John Hoover Moon Memorial Lecture (G. Watson James, III, MD) and **Symposium on Coagulation Disorders in Hematological Malignancy** (Medical College of Virginia and Leukemia Society of America, Virginia Chapter), Baruch Auditorium, *Richmond.* 6 hrs. Cat. 1. Erma Blanchard (804) 786-0496.

October 15
Pediatrics Prep (East Tennessee State University College of Medicine), *Bristol, Tennessee.* 7 hrs. credit. Fee: $60. Shirley Bogart at the College, (615) 928-6426, Ext. 204.

More meetings next page.

October 17
2nd Annual Neonatal Symposium on Maternal and Infant Infections (Eastern Virginia Medical School), Lewis Hall, *Norfolk.* Fee, $15. Edward H. Karotkin, MD, 800 W. Olney Rd., Norfolk VA 23507, (804) 628-3782.

October 17
Annual Family Practitioners' Symposium (Gill Memorial Hospital Foundation), *Roanoke.* Dr. David N. Keys, PO Box 1789, Roanoke VA 24008, (703) 344-2071.

October 17
Pulmonary Medicine (Roanoke Memorial Hospital), *Roanoke.* William H. McAfee, Roanoke Memorial Hospital, Roanoke VA 24033.

October 24-25
Newer Diagnostic Techniques for the Practicing Clinician: 52nd Annual McGuire Lecture Series (Medical College of Virginia), *Richmond.* 12 credit hours. Fee: Physicians, $130; visiting housestaff, $25. Kathy E. Johnson, Box 48, MCV Station, Richmond VA 23298, (804) 786-0494.

October 24-26
American Medical Association Regional Meeting, Fairmont Hotel, *Philadelphia.* J. Sturgeon, AMA, 535 N. Dearborn St., Chicago IL 60610.

October 31- November 1
Cooperative Approach for the Multi-Disciplinary Management of Patients with Cancer of the Lung, Head/Neck Area, or Prostate/Bladder (University of North Carolina), *Chapel Hill, North Carolina.* 10 hrs. Cat. 1. Ms. Pam Upchurch, Box 30, MacNider Bldg., Chapel Hill NC 27514, (919) 966-3036.

November 1-2
Recent Advances in Cancer Management: A Reading Retreat (Medical College of Virginia and the American Cancer Society, Virginia Division), *Williamsburg.* 14 hrs. Cat. 1. Fee: $75. Ethel Sketchley, PO Box 7288, Richmond VA 23221; Virginia residents call (800) 552-7996, out of state residents call (804) 359-0208.

November 1-2
Nuclear Medicine Seminar (Virginia Chapter, American College of Radiology and University of Virginia), Boar's Head Inn, *Charlottesville.* 5 hrs. Cat. 1. Charles D. Teates, MD, (804) 924-5201.

November 5-9
Pediatric Urology (Duke University), *Pinehurst, North Carolina.* Ms. Luida Mace, Box 3707, Duke University Medical Center, Durham NC 27710.

November 6-7
Genetics for the Future, a Symposium (Eastern Virginia Medical School and March of Dimes—Birth Defects Foundation), Lewis Hall, *Norfolk.* 10 hrs. Cat. 1. Emma Severance, (804) 446-5859.

November 6-9
133rd Annual Meeting of The Medical Society of Virginia, Conference Center, *Williamsburg.* Robert I. Howard, (804) 353-2721.

November 8-9
Biannual Meeting of the Neuropsychiatric Society of Virginia, Conference Center, *Williamsburg.* Mrs. Carol Medlin, Executive Secretary, (804) 746-7648.

November 10-13
Update in Cardiovascular Diseases (University of North Carolina), *Pinehurst, North Carolina.* 29 hrs. Cat. 1. William Wood, MD, 319 MacNider Bldg., 202-H, Chapel Hill NC 27514.

November 13
High Risk Pregnancy (Roanoke Memorial Hospital), *Roanoke.* William H. McAfee, Roanoke Memorial Hospital, Belleview at Jefferson St., Roanoke VA 24033.

November 13-15
National Forum on Comprehensive Cancer Rehabilitation and Its Vocational Implications (Virginia Department of Rehabilitative Services and Medical College of Virginia), *Williamsburg.* 14 hrs. Cat. 1. Fee: $175. Kathy E. Johnson, (804) 786-0496.

November 16-18
Annual Meeting of the American Society of Nephrology, *Washington, DC.* Jan Sharkey, Charles B. Slack, Inc., Thorofare NJ 08086.

November 16-19
74th Annual Scientific Assembly of the Southern Medical Association, *San Antonio, Texas.* Southern Medical Association, 2601 Highland Ave., Birmingham AL 35256, (205) 323-4400.

November 21-23
Critical Issues in the Health of the School-Aged Child (Medical College of Virginia), *Williamsburg.* 10 hrs. Cat. 1. Fee: MDs, $160; others, $80. Kathy E. Johnson, (804) 786-0496.

November 24-28
Asia and Oceania Congress of Nuclear Medicine, *Manila, Philippines.* The Secretariat, Medical Center, Manila Annex Bldg., United Nations Ave., Manila 2801 Philippines.



GILL MEMORIAL HOSPITAL FOUNDATION

announces the annual

SYMPOSIUM FOR FAMILY PRACTITIONERS

at the

Patrick Henry Hotel
Roanoke, Virginia
OCTOBER 17, 1980
Noon to 5:45 p.m.

Advance registration requested

A.A.F.P. approved

Contact David N. Keys, M.D.
P.O. Box 1789
Roanoke, Va. 24008
(703) 344-2071

UPDATE
UPDATE
UPDATE

MEDICAL UPDATE FOR PRACTICING PSYCHIATRISTS

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Offers practicing psychiatrists an unique opportunity to update and review general medical knowledge as well as to discover some of the newest diagnostic and therapeutic developments. A wide range of medical and surgical topics will be discussed.

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Fort Magruder Inn & Conference Center, Williamsburg

Form **1040** Department of the Treasury—Internal Revenue Service **U.S. Individual Income Tax Return** **1979**

For Privacy Act Notice, see page 3 of Instructions | For the year January 1–December 31, 1979, or other tax year beginning , 1979, ending , 19

Use IRS label. Otherwise, please print or type. Your first name and initial (if joint return, also give spouse's name and initial) | Last name | Your social security number

Present home address (Number and street, including apartment number, or rural route) | Spouse's social security no.

City, town or post office, State and ZIP code | Your occupation ▶

Spouse's occupation ▶

Presidential Election Campaign Fund ... ing "Yes" will ... your tax or ... r refund.

Taxes and inflation are two major economic counterforces.

We believe...

The true test of an investment is its after-tax and after-inflation rate of return. The real test of a tax shelter is its merits when considered without regard to any tax benefits.

Filing Status

Check only one box.

4 Head of household. (See page 7 of Instructions.) If qualifying person is your unmarried child, enter child's ... page 7 of Instructions.)

Exemptions

Always check the box labeled Yourself. Check other boxes if they apply.

... Yourself ... 65 or over ... Blind } Enter number of boxes checked on 6a and b ▶

b ... Spouse ... 65 or over ... Blind

c First names of your dependent children who lived with you ▶ } Enter number of children listed ▶

d Other dependents: (1) Name	(2) Relationship	(3) Number of months lived in your home	(4) Did dependent have income of $1,000 or more?	(5) Did you provide more than one-half of dependent's support?

Enter number of other dependents ▶ Add numbers entered in boxes above ▶

Income

Please attach Copy B of your Forms W-2 here.

If you do not have a W-2, see page 5 of Instructions.

7	Total ...		
8	Wages, ... etc.	8	
9	Interest income (attach Schedule B if over $400)	9	
10a	Divide...		
c	Subtract line 10b from line 10a	10c	
11	State and ... income tax refunds (does not apply unless refund is for ...	11	
12	Alimony received	12	
13	Busine...	13	
14	Capita... (attach Schedule D)	14	
15	Taxable part of capital gain distributions not reported on Schedule D (see page 10 of Instructions)	15	
16	Supplemental gains or (losses) (attach Form 4797)	16	
17	Fully taxable pensions and annuities not reported on Schedule E	17	
18	Pensions, annuities, rents, royalties, partnerships, estates or trusts, etc. (attach Schedule E)	18	
19	Farm income or (loss) (attach Schedule F)	19	
20a	Unemployment compensation. Total amount received		
b	Taxable part, if any, from worksheet on page ... of Instructions	20b	
21	Other income (state nature and source—see page ... of Instructions) ▶	21	
22	Total income. Add amounts in column for lines 8 through 21 ▶	22	

Please attach check or money order here.

Adjustments to Income

23	Moving expense (attach Form 3903 or 3903F)	23	
24	Employee business expenses (attach Form 2106)	24	
25	Payments to an IRA (see page ... of Instructions)	25	
26	Payments to a Keogh (H.R. 10) plan	26	
27	Interest penalty on early withdrawal of savings	27	
28	Alimony paid (see page 11 of Instructions)	28	
29	Disability income exclusion (attach Form 2440)	29	
30	Total adjustments. Add lines 23 through 29 ▶	30	

Adjusted Gross Income

31 Adjusted gross income. Subtract line 30 from line 22. If this line is less than $10,000, see page 2 of Instructions. If you want IRS to figure your tax, see page 4

Heritage Associates, Inc.
Brookfield • Southern States Building • 6606 West Broad Street • Richmond, Virginia 23261



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Glaucoma: A Review and Guide to Detection

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The eyesight of many patients with glaucoma can be saved if the diagnosis is made early, and the primary physician is often the key to this sight-saving intervention. In this review, the author describes the office screening techniques that can lead to detection of this common disease.

THE term "glaucoma" is applied to many ocular diseases which have in common an elevation of the intraocular pressure sufficient to cause actual or potential visual impairment. Glaucoma affects over 1 million US citizens, causing significant visual damage in 200,000, of whom 56,000 are legally blind.[1] By extrapolation, 24,000 of these glaucomatous patients live in Virginia, and 1,300 of them are legally blind. Glaucoma is, therefore, a common disease.

Pathogenesis

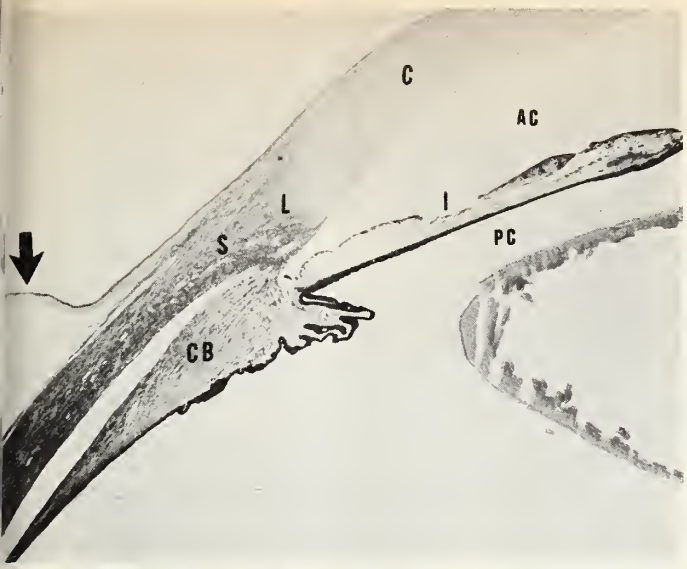
The mechanism underlying the elevated intraocular pressure in glaucoma is an obstruction to the outflow of aqueous humor. Aqueous is formed by the ciliary body in the posterior chamber of the eye and provides nourishment to the lens and posterior portion of the cornea (Fig. 1). The intraocular pressure produced by the formation of aqueous helps the eye maintain its normal shape. Aqueous flows from the posterior chamber through the pupil to the anterior chamber, from which it leaves the eye via the trabecular meshwork (Fig. 2). From the trabecular meshwork it enters a collection tube and thence into the venous system. The trabecular meshwork is located in the periphery of the anterior chamber.

Visual loss from elevated intraocular pressure results from optic nerve damage. Because the eye is a fluid-filled structure, the intraocular pressure is transmitted equally throughout the eye. The increased intraocular pressure damages the optic nerve at the lamina cribrosa, where the nerve exits the eye, by interfering with the axons' function directly or indirectly by compromising the nerve's intrinsic blood supply. Optic nerve damage produces cupping of the nerve head (Figs. 3 and 4), and loss of visual field. The peripheral field is gradually lost. Blind spots develop in the central field and enlarge and coalesce

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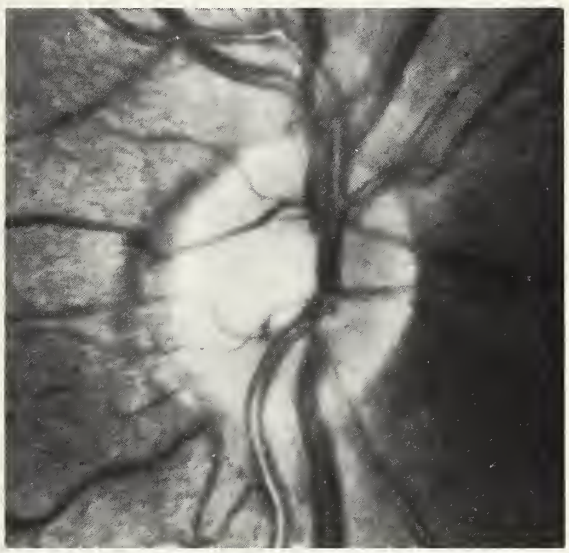
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g. 1, left. Anterior portion of normal eye. Clear cornea (C) joins opaque sclera (S) at limbus (L). Bulbar conjunctiva (arrow) separated artiactitiously from underlying sclera. Iris (I) merges posteriorly with ciliary body (CB), separated artifactitiously from overlying sclera. Anterior amber (AC) is space between posterior corneal surface and anterior surface of iris; periphery of lens visible behind iris. (Much lenticular bstance lost in sectioning.) Posterior chamber (PC) is space between posterior iris surface and lens. (Hematoxylin & eosin; ×13.)
g. 2, right. Anterior chamber of normal eye. Aqueous humor exits anterior chamber (AC) by passing through trabecular meshwork (small rrow), entering Schlemm's canal (large arrow), then into venous system. S=sclera; CB=ciliary body; I=iris. (Hematoxylin & eosin; ×30.)



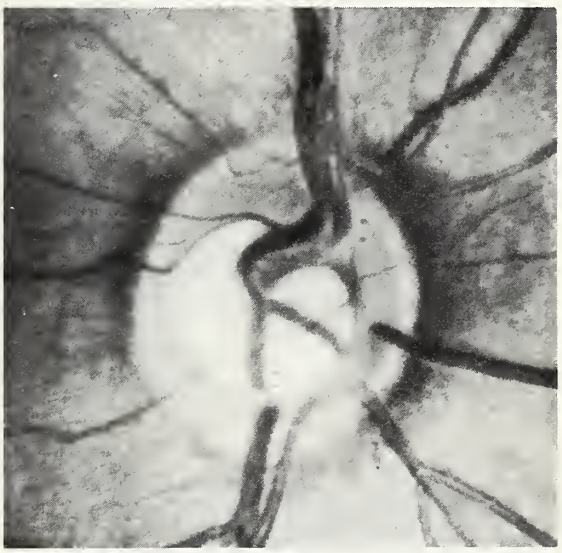
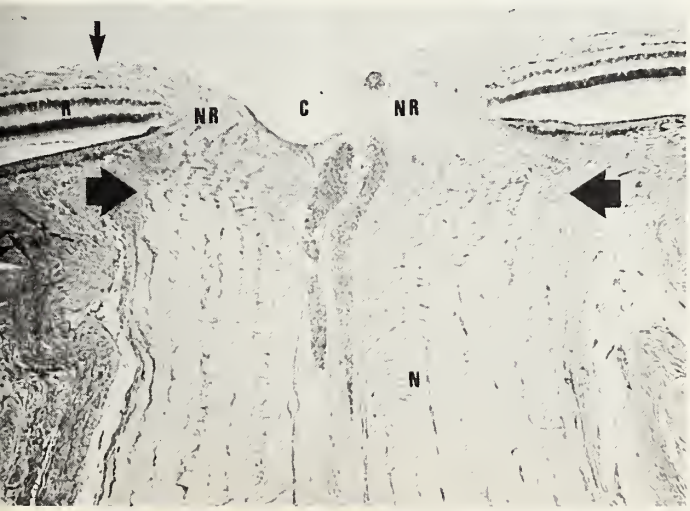
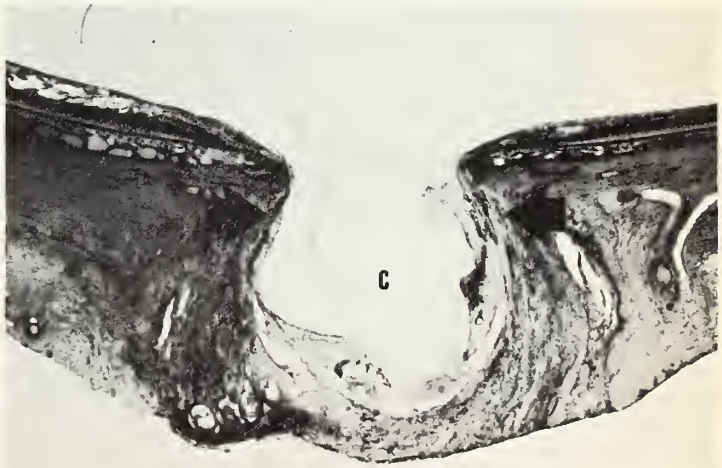


Fig 3A, left, shows normal optic nerve head. Fig. 3B, right, shows moderate cupping of 0.5-0.6 cup/disc ratio, warranting further study to rule out glaucoma.





g. 4A, left. Normal optic nerve. Inner layer of retina (R) is nerve fiber layer (small arrows), which exits eye at posterior scleral foramen rge arrows) to form optic nerve (N), with normal nerve rim (NR) and small physiological cup (C). (Hematoxylin & eosin; ×35.) Fig. 4B, ght. Glaucomatous cupping. All neural tissue lost, leaving no nerve rim. Large cup (C) replaces neural tissue. Retinal nerve fiber layer absent. Large arrows indicate posterior scleral foramen. (Hematoxylin & eosin; ×15.)

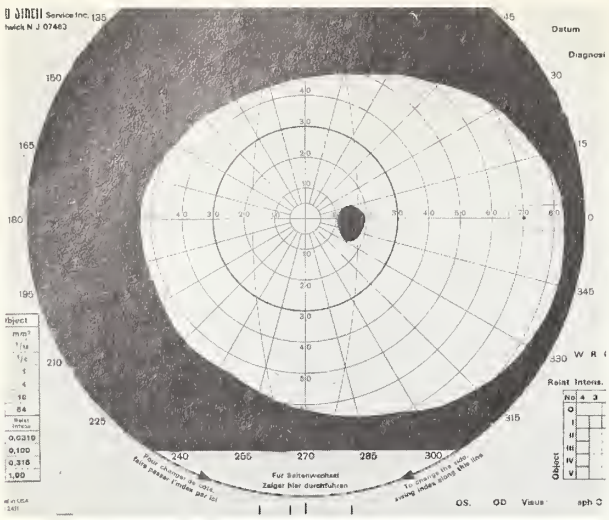


Fig. 5A. Normal visual field for right eye.

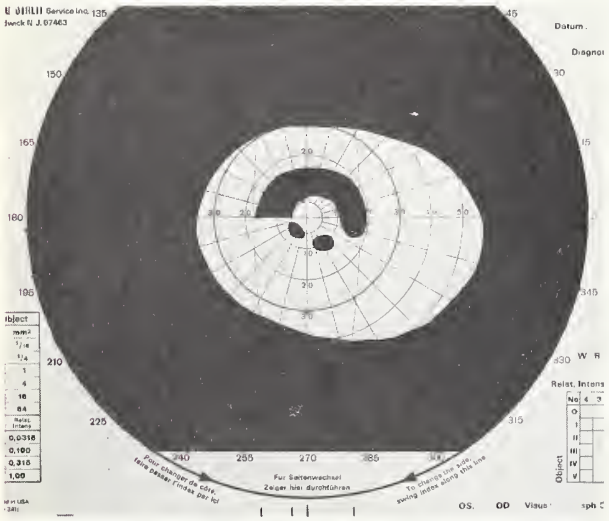


Fig. 5B. Moderate glaucomatous visual field loss with constriction of peripheral field, several scotomas in central field.

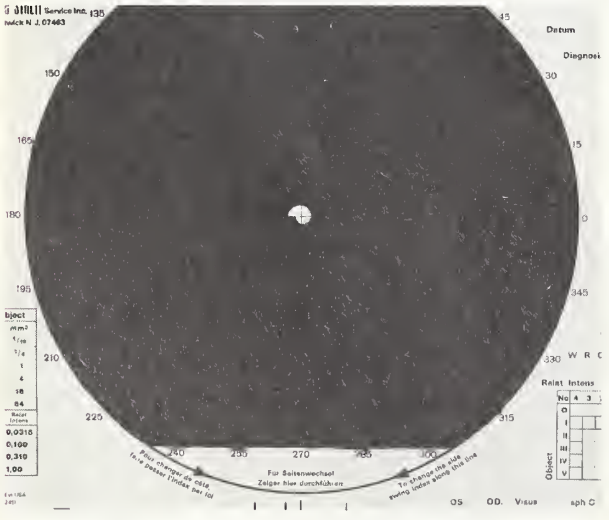


Fig. 5C. Marked glaucomatous visual field loss with only small central island of vision remaining.

until only a small island of central vision remains (Fig. 5). The patient is frequently unaware of visual change until the central-most part of his field is affected, usually very late in the course of the disease.

Classification

Glaucoma has been classified into two main groups, the primary glaucomas, which are thought to be genetically determined bilateral diseases, and the secondary glaucomas, which are caused by some other disease process within the eye (Table 1).[2] Each of these two groups can be subdivided into angle closure, in which the iris forms a physical obstruction at the entrance to the trabecular meshwork, and open angle in which the entrance is open but the meshwork does not function properly. Some distinguish

Table 1. Glaucoma Classification.

Primary	Secondary	Infantile
Open angle	Open angle	
Closed angle	Closed angle	

from this classification those glaucomas in which an anomaly of the drainage mechanism is present at birth and group these as infantile glaucoma.

Primary Open Angle Glaucoma

Primary open angle glaucoma is the most common type of glaucoma. It is rare in young adults but becomes more common with age. Approximately one-half of one percent of all individuals over age forty have ocular damage from primary open angle glaucoma with the prevalence rising to slightly greater than one percent of those over age seventy.[3] There is a much larger group of individuals who have an elevated intraocular pressure (defined as a pressure of 21 mm Hg or greater) but demonstrate no visual field loss. This group is perhaps ten times the size of the group that manifests field loss. These individuals are called "glaucoma suspects" or "ocular hypertensives" and must be followed closely by an ophthalmologist in order to detect early signs of glaucomatous damage.

The level of the intraocular pressure is the variable most frequently associated with ocular damage caused by primary open angle glaucoma. There are other ocular and systemic variables which are found more frequently in the glaucomatous population (Table 2).

Potential glaucoma patients also differ in their response to corticosteroids. Topical ocular corticosteroids, corticosteroids applied to the eyelids, and, occasionally, systemic steroids can produce a rise in intraocular pressure in pre-glaucoma individuals.[4]

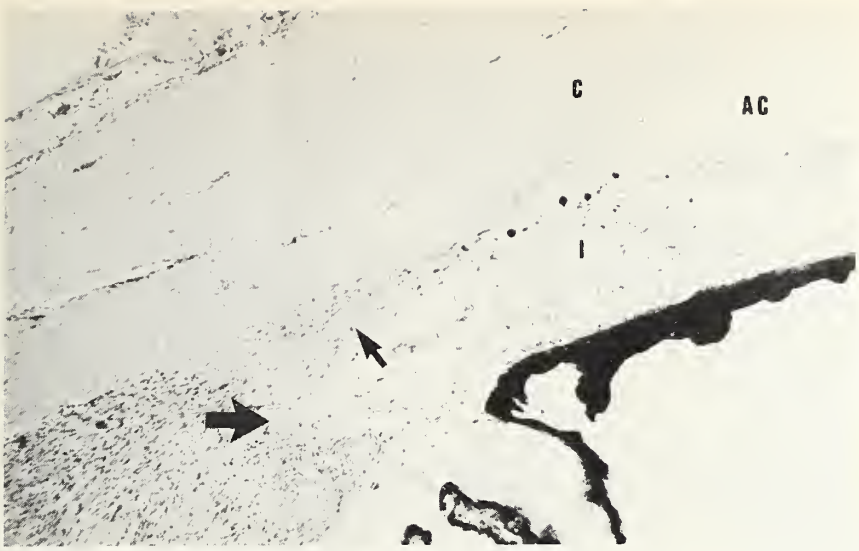


Fig. 6. Angle closure. Opening between cornea (C) and iris (I) normally extends to point indicated by large arrow, so that trabecular meshwork (small arrow) is exposed to anterior chamber (AC), and aqueous can drain through meshwork into venous system. But in this specimen, iris covers entrance to trabecular meshwork, preventing access of aqueous to drainage structure. (Hematoxylin & eosin; ×30.)

Primary open angle glaucoma is usually treated medically with topical cholinergics (e.g., pilocarpine), adrenergics (e.g., epinephrine), and/or beta-adrenergic blockers (e.g., timolol). If these are inadequate or intolerable, a systemic carbonic anhydrase inhibitor (e.g., acetazolamide) is added. When medical therapy is inadequate, an alternate pathway for the drainage of the aqueous humor must be created surgically.

Primary Angle Closure Glaucoma

Primary angle closure glaucoma is the second most common type of glaucoma and, like primary open angle glaucoma, increases in incidence with age. An eye predisposed to angle closure is usually hyperopic and is a small eye with the structures in the anterior part of the eye crowded together. This places the lens snugly against the posterior surface of the iris, which makes it more difficult for the aqueous to flow between the iris and lens and into the anterior chamber. The iris consequently bows forward. As the lens becomes larger, which it does with age, the forward bowing of the iris increases and eventually the entrance to the trabecular meshwork is occluded by the displaced iris (Fig. 6). The patient usually develops a marked, acute pressure rise which causes a red, congested eye, dilated pupil, blurred vision, halos around lights and pain. Occasionally nausea and vomiting may be present and are sometimes the predominant complaints.

An attack of angle closure can be precipitated in a predisposed eye by pharmacologically dilating the pupil. This physically bunches the iris in the periphery, blocking the narrow angle.

An eye predisposed to angle closure can be recognized by side-lighting the eye with a hand light. If a light is directed into such an eye from the side, the forward bowing of the iris casts a shadow onto the iris opposite the light. A patient with this finding deserves further evaluation by an ophthalmologist.

Primary angle closure glaucoma is treated by surgery. An iridectomy is created to provide an alternate route for aqueous to reach the anterior chamber. This relieves the posterior pressure on the iris, allowing it to fall back away from the trabecular meshwork.

Table 2. Glaucoma Risk Factors

Elevated intraocular pressure	Central retinal vein occlusion
Optic cup/disc ratio > 0.5	Retinal detachment
Optic disc hemorrhage	Diabetes mellitus
High myopia	Coronary artery disease
Thyrotropic exophthalmos	Family history of glaucoma

Secondary Glaucoma

Secondary glaucoma is usually caused by ocular inflammation or trauma, but can also be caused by other abnormal ocular conditions (Table 3).[5]

Table 3. Causes of Secondary Glaucoma.

Inflammation	Trauma
Medications	Ocular surgery
Mydriatrics	Ocular tumor
Miotics	Cataract
Corticosteroids	Iris neovascularization

Many systemic diseases are associated with an increased incidence of intraocular inflammation (Table 4). Patients with these disorders may benefit from periodic ophthalmic examinations to detect the pres-

Table 4. Conditions Associated with Ocular Inflammation.

Rheumatoid arthritis (especially juvenile rheumatoid)	Reiter's syndrome
	Granulomatous ileocolitis
	Ulcerative colitis
Ankylosing spondylitis	Tuberculosis
Sarcoidosis	Syphilis

Table 5. Conditions Associated with Infantile Glaucoma.

Aniridia	Homocystinuria
Sturge-Weber syndrome	Pierre Robin syndrome
Neurofibromatosis	Lowe's syndrome
Marfan's syndrome	Marchesani's syndrome
	Rubella

ence of ocular inflammation, which is sometimes occult. Elevated intraocular pressure secondary to ocular inflammation can be very resistant to both medical and surgical therapy, especially in those cases which develop extensive scarring of the trabecular meshwork. Many such eyes are lost.

Both ocular penetrating injuries and contusions can result in glaucoma that may occur immediately or may be delayed up to several decades. Periodic examinations are required to detect early signs of glaucoma in these patients.

Drugs that dilate the pupil and those that constrict the pupil have both been infrequently associated with a rise in intraocular pressure. As mentioned earlier, corticosteroids, especially those applied to the eye or the eyelids, can produce a rise in intraocular pressure in certain individuals.[4] This may occur in up to one-third of the exposed population and has led to severe visual loss.

Certain ocular surgical procedures can be complicated by a subsequent elevated intraocular pressure. This is usually transient but occasionally is prolonged. Visual loss occurs if the eye is unable to tolerate the elevated pressure.

Neovascularization of the iris occurs in response to ocular ischemia. This is most commonly seen in association with diabetic retinopathy but occurs also in central retinal vascular occlusion, ocular tumors, retinal detachment, carotid occlusive disease, retrolental fibroplasia and other rare ocular ischemic conditions. Glaucoma occurs when the proliferating fibrovascular membrane on the surface of the iris invades the angle and covers the trabecular meshwork, thereby impeding access of the aqueous humor to the major outflow channels of the eye.

Infantile Glaucoma

Infantile glaucoma is associated with an anomaly of the drainage mechanism present at birth. It includes primary infantile glaucoma as well as glaucoma associated with other congenital anomalies.

Primary infantile glaucoma affects about one in 10,000 children. Approximately half the cases are inherited as an autosomal recessive trait while the other half occurs sporadically. Eighty percent are diagnosed in the first year of life with 60% diagnosed in the first six months.[2] Early symptoms are excessive tearing, photophobia and spasmodic lid closure, which may be present weeks before other signs develop. As the pressure increases, the cornea becomes edematous, permitting only a hazy view of the interior of the eye. The increased pressure also produces enlargement of the eye including the cornea (Fig. 7), and early cupping of the optic nerve head. A child with any of the early symptoms not readily explained by other conditions, or with corneal haziness, corneal enlargement or increased optic disc cupping, should be examined under anesthesia. If glaucoma is diagnosed, a surgical procedure is performed, since medical management of infantile glaucoma is inadequate.

There are several congenital conditions which predispose to the development of infantile glaucoma (Table 5).[2] Patients with these conditions must have early ophthalmological examinations and frequent followup to detect glaucoma at an early stage.

Glaucoma Detection

Glaucoma is best detected during a routine exam in the ophthalmologist's office. Many people do not consult an eye physician, however, unless they believe something is wrong. This may result in extensive ocular damage from glaucoma, because the most common type of glaucoma is usually asymptomatic until late in its course.

Primary physicians can help detect glaucoma in high risk patients by looking for optic nerve head cupping during all routine physical examinations and by measuring the intraocular pressure when indicated. The intraocular pressure can be measured quickly in cooperative patients with a Schiotz tonometer, which costs about $150.

In order to make best use of his valuable time, the primary physician cannot determine the intraocular pressure of every patient he sees. He must be selective in using this as well as all other diagnostic procedures. As previously indicated, patients having risk factors for primary open angle glaucoma (Table 2) should be referred to an ophthalmologist. Those patients with a red, tearing and painful eye suggestive of angle closure glaucoma should also be referred to an ophthalmologist, as should someone with any of the conditions that may be complicated by secondary glaucoma (Tables 3 & 4). A child with the signs of in-



Fig. 7. Infantile glaucoma. Obvious on close inspection is minimal enlargement of left eye.

fantile glaucoma or with any of the congenital conditions that may be associated with glaucoma (Table 5)[2] should also be under the care of an ophthalmologist. Of the remaining patients, anyone who is routinely followed by an ophthalmologist would probably not benefit from an additional measurement by his primary physician. This leaves only those patients without predisposing ocular or systemic conditions who do not receive routine eye care and who do not have increased optic disc cupping. These patients can be screened for increased intraocular pressure by primary physicians. Examinations should begin around age 35 and, if normal, should be repeated every two years. The odds of finding an ocular-damaging pressure in a young patient without risk factors or predisposing conditions do not justify earlier screening. The odds of developing an ocular-damaging pressure under the above circumstances do not justify more frequent measurement.

The technique of Schiotz tonometry is simple. The patient is supine and fixes a mark on the ceiling. After instillation of topical anesthesic drops, the footplate of the tonometer is placed on the cornea. A plunger in the center of the footplate indents the cornea by an amount inversely proportional to the intraocular pressure. The amount of indentation is magnified mechanically and is measured on a scale. This measurement can be converted to the intraocular pressure by using a table. Normal pressure is usually below 21 mm Hg and the two eyes usually differ only by 5 mm Hg or less. A patient who deviates from these normal values should be referred to an ophthalmologist.

A primary physician should carefully avoid placing a tonometer on any inflamed eye. Many types of viral and bacterial conjunctivitis and keratitis (corneal inflammation) can be spread with a tonometer. Because the incubation period may be a week or longer, many patients may be inoculated before developing symptoms.

Many physicians hesitate to screen patients for glaucoma because of possible damage that might occur to the anesthetized cornea during the pressure measurement or after the patient leaves the office. This consideration is minor when compared to the possibility of sending a patient home with an undiagnosed and potentially blinding disease.

Conclusion

Glaucoma is a term that refers to numerous ocular diseases which have elevated intraocular pressure sufficient to cause visual impairment. Many patients with glaucoma can be helped if the diagnosis is made early. With office screening techniques and appropriate referrals, the primary physician can help identify these patients before appreciable visual loss occurs.

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A General Radiologist Looks at Congestive Heart Failure

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"Humility always becomes the radiologist," says the author, who in his own radiological files finds evidence that congestive heart failure is often missed on x-ray and that for the radiologist the diagnosis of congestive heart failure may be virtually impossible, especially in certain patients.

AFTER thirty years and many thousands of chest studies, an informed radiologist perforce develops a respect for the difficulties in diagnosing congestive heart failure (CHF). I propose to discuss some of these difficulties and a few new observations but will make no effort at quantification, nor will I make statements that do not receive support from my own material.

I believe that congestive heart failure is often missed radiologically. Evidence for this consists of the frequent pairs of chest studies from my files, a few days or weeks apart, wherein the first of these two examinations was interpreted as normal (review confirms the original reading or indicates subtle abnormalities of congestive heart failure), and the second study discloses florid heart failure. I further believe that the diagnosis of congestive heart failure may be virtually impossible, especially in those patients with chronic obstructive lung disease (see below) or in those patients with pulmonary edema from non-cardiac causes (e.g., drugs) and with non-related, pre-existent cardiac enlargement. Humility always becomes the radiologist.

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Cardiac Size. This is one of the most untrustworthy determinations in cardiac radiology. The nomograms of old are little seen today. Volume without reference to body size and physical work habits is of little value. Cardiothoracic ratio is useful in sequential studies but not for a single determination. A grossly enlarged heart, even with congestive heart failure, in the presence of chronic obstructive lung disease may have a ratio well below 50%. A sphere with a diameter of 10 cm will increase its diameter by only 1 cm when its volume increases 33%.

Even with the same full inspiration there may be significant change in the transverse cardiac diameter, depending on how much Valsalva maneuver the subject performs. When the cardiac study is done with a barium swallow, there is a repeated tendency for the patient not to inspire fully, resulting in a specious mild cardiomegaly that may cause serious diagnostic error, especially in the child with an innocent murmur.

The diagnosis of congestive heart failure cannot be excluded because there is no cardiac enlargement by current radiologic standards[1]. The heart size may be normal in congestive heart failure from myocardial infarction, for example, because of altered compliance of the left ventricle, despite elevated end diastolic left ventricular pressure. The big ventricle is inconstant in pulmonary edema from injudicious parenteral therapy[2].

Echocardiology helps us immeasurably in the detection of the big heart. It has shown us the dangers of using the terms dilatation and hypertrophy on radiographic grounds, rather than simply enlargement, and the dangers of identifying the enlarged ventricle (a lesson pointed out to me many years ago by Dr. Richard Lester). Even with an ultrasound measurement, it must be remembered that some hearts measuring below an upper limit of normal by a given standard may be enlarged, and some hearts above an upper limit may not be enlarged.

Enough has been said to show why the general radiologist must become involved in echocardiology.

Hila. Hila abnormal in either size, definition or density are the most reliable indicator of congestive heart failure[3]. The technically good roentgenogram shows that normal hila are almost totally vascular, and permits an estimation of the size of these vessels. When discrete vessels cannot be discerned, abnormal lymph nodes or tumor becomes a consideration. Fullness of the superior pulmonary vein, especially on the right, obliterates the common waist of the normal hilum. While the waist may be absent normally, it is practically always absent with congestive heart failure.

Broncho-phanerosis, my neologism, indicates bronchi that have been rendered visible, or more easily visible. There is not only peribronchial edema in congestive heart failure but also edema of the bronchial walls themselves and intraluminal moisture, all contributing to the "thickened bronchi" in congestive heart failure. The edematous walls point up the neglected role of the bronchial circulation in heart failure, a system whose head of pressure is systemic and whose drainage is into each atrium[4]. Cardiac asthma and air-trapping in pediatric cardiac states are well explained by invoking the role of the bronchial vascular system. Waxing and waning of congestive heart failure are associated with parallel changes in the hilar bronchi: the smaller ones may appear and disappear, and the larger ones change from a thick wall to a fine wall, depending on the amount of congestive heart failure. Care should be taken to exclude broncho-phanerosis from old or fresh inflammatory disease and from dissimilar technical factors. Broncho-phanerosis as a sign of congestive heart failure is reliable when properly interpreted.

Pulmonary Edema (Airspace). Because any fluid within the airspace (blood, inflammatory, aspirant, congestive) may all appear similar and resolve quickly, care should be taken not to base the diagnosis of congestive heart failure exclusively on this. There is often a homogeneous shadow in the inner right base that is easily taken for airspace edema, but it persists longer than expected for airspace filling, and at times a linear pattern can be discerned through the homogeneity, indicating its interstitial nature rather than airspace[3].

The vigorously beating heart is said to be able to clear a neighboring strip of lung of edema, producing a clear zone about the heart[5]. A Mach effect can be a sufficient explanation for this clear zone[6].

Pulmonary edema (airspace?, interstitial?, both?) tends to occur and persist around scars. When the scars are widespread, an atypical pattern of pulmonary edema with congestive heart failure may be found, and in each successive bout of CHF, the atypical pattern of the edema remains the same.

Pulmonary Edema (Interstitial). Pathogenetically, it is likely that this must precede airspace edema and that all airspace collection must have an interstitial component, though not easily demonstrated radiologically in some cases. It, like airspace edema, may disappear in a matter of hours. It may be found without detectible airspace component. Fluid in the interlobular septa results in the familiar A and B lines of Kerley. I agree with Felson that B lines may be normal[7].

Poorly known are the D lines, best seen on the lateral view overlying the heart shadow, representing interstitial edema in anatomic fibrous tracts between veins, bronchovascular bundles and pleurae[8]. These are easily confused with discoid atelectasis.

Interstitial edema degrades the definition of the vessels, especially in the bases, and motion is thus mimicked. The sharply etched aortic knob excludes extraneous motion. Vessels running more or less anteroposteriorly present as micronodules because of perivascular edema[3].

The basal veil is due to diffuse edema in the interstitial compartment of the lung bases. This must be interpreted with caution, because breast and chest wall tissue in either sex may mimic it. The female breast may be elevated prior to the exposure to observe a bit of the lung base unobscured. I feel secure in identifying this sign only in males, and in those males who have prior normal studies. The diaphragm may be high because the interstitial edema causes diminished compliance of the lung. True veil-

ing is usually found with other signs of edema.

Vascular Cephalization in the Upright Patient[9,10]. This is another reliable indicator of congestive heart failure, but it must be determined accurately: lower and upper lobe vessels to be compared must be equidistant from the left atrium. Thus, it is better to use the more peripheral vessels, since the length of peripheral course cannot be estimated in the more medial vessels on a frontal radiograph.

Simplistic explanations of the mechanism of cephalization, such as basal perivascular interstitial edema, are not satisfying, because cephalization can occur while the basal vessels are still sharply etched.

Bothersome is my inability to detect cephalization in every case of congestive heart failure.

Pleural Fluid. Fluid may be so well encapsulated within the minor fissure, even with clear lateral and posterior costophrenic sulci, and the evidence for congestive heart failure may be so subtle that the patient runs the risk of pneumonectomy for peripheral tumor.

In the supine patient, fluid within the major fissure may present diagnostic difficulties. In conformity with the medial limits of this fissure, the medial border of the interlobar fluid is sharp and the lateral border is poorly defined[11]. Such accumulations can be confused with skin folds. But with skin folds, the medial border is poorly defined and the lateral border is sharp.

CHF in the Presence of Chronic Obstructive Lung Disease. This diagnosis can tax the skills of the best[12]. Without (even with) prior chest studies, the diagnosis may be radiologically impossible. Cardiac enlargement may not be noticeable without prior studies, and still the cardiothoracic ratio may be well below 50%. When vessels are deficient, edema is deficient; hence, the peculiar spotty or reticular or honeycomb appearances of edema. All sorts of vascular redistribution patterns are possible according to the pattern of overinflation and of scarring. Dr. Eric Milne pointed out to me that the pattern of upper lobe emphysema may be barely detectible on the chest study after subsidence of or before the congestive heart failure and yet enough to cause gigantic vessels in the base during the failure phase. Bronchophanerosis may be valuable evidence in these cases.

Little Known or New Signs of CHF. While these are not necessary to the diagnosis and while they are probably never found alone, they are intellectually satisfying to detect if only because they represent pathophysiology in action.

Soft part edema of the lateral chest wall is indicated by thickening and obliteration of tissue planes. Prior films aid in its identification.

Systemic dehydration may be indicated by a serrated contour of the soft parts of the neck on the frontal views.

Enlargement of the azygos vein is a poor sign of congestive heart failure, and is commonly not present even in the presence of florid failure[9]. Rarely, enlargement of the posterior portion of the arch (in contrast to the more familiar anterior portion that forms the almond-shaped structure at the angle of the trachea and right main stem bronchus) may be detected as it lies beside the aortic knob.

The four pleural surfaces of the azygos septation may be thickened or poorly defined during the active phase of failure, to return to their normal hair-line sharpness with regression. These pleural surfaces react just as pleural surfaces elsewhere.

The pleural-tracheal stripe may be thickened from edema within the wall of the trachea, edema of its pleural covering, and from moisture within the pleural cavity.

I have detected thickenings of two mediastinal interfaces[13] during failure, and return to normal with subsidence: 1. anterior mediastinal line, where the two pleural surfaces (right and left) approach each other anterior to the cranial reaches of the heart; and 2. posterior mediastinal line, where the two pleural surfaces (right and left) approach each other posterior to the proximal thoracic esophagus. I have not yet detected pleural edema in the posterior line caudal to the aortic arch (posterior to the esophagus and anterior to the descending thoracic aorta), probably because demonstration of this interface is so rare under any circumstances.

Summary

Congestive heart failure may be difficult to detect. Determination of cardiac size is untrustworthy. Changes in the hila (vessels, bronchi) are reliable. Pulmonary edema may be atypical. Vascular redistribution must be interpreted accurately. Congestive changes with chronic obstructive lung disease may be difficult or impossible to detect. Pleural fluid may present atypically. Changes in pleural surfaces other than in bases produce "new" signs.

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Health and Safety Tip

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Air Travelers Face Jet Lag Fatigue

Jet Lag Is Hazard

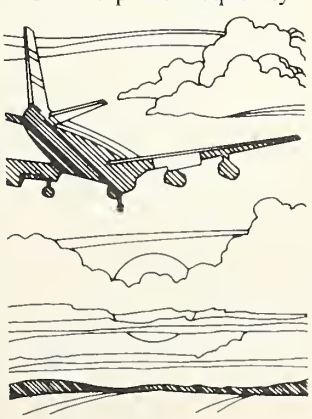
The most obvious contributor to stress in the modern world travel style is "jet lag fatigue."

An air traveler who departs from New York for Italy at 5:30 p.m. crosses seven time zones during a seven-hour flight, and arrives in Rome at 7:30 a.m. Rome time. But it is 12:30 a.m. in New York, the middle of the night for the traveler.

There is great variability in the effects of time zone changes and in one's speed of adjustment, the American Medical Association points out. The young adjust easily; older individuals more slowly.

Tourists planning months in advance for an overseas vacation should take conditioning exercises; a two to three-week program of walking up to three miles a day. Avoid the Bon Voyage party, unless it is given two or three days prior to departure.

In flight, remember that two drinks at cruising altitude are the equivalent of three or four on the ground. Eat moderately and drink sparingly. Get up and walk about the plane frequently.



The single most important requirement on arrival at the overseas destination is sleep and rest. A flight to Europe should be followed by a good night's sleep before sightseeing or business.

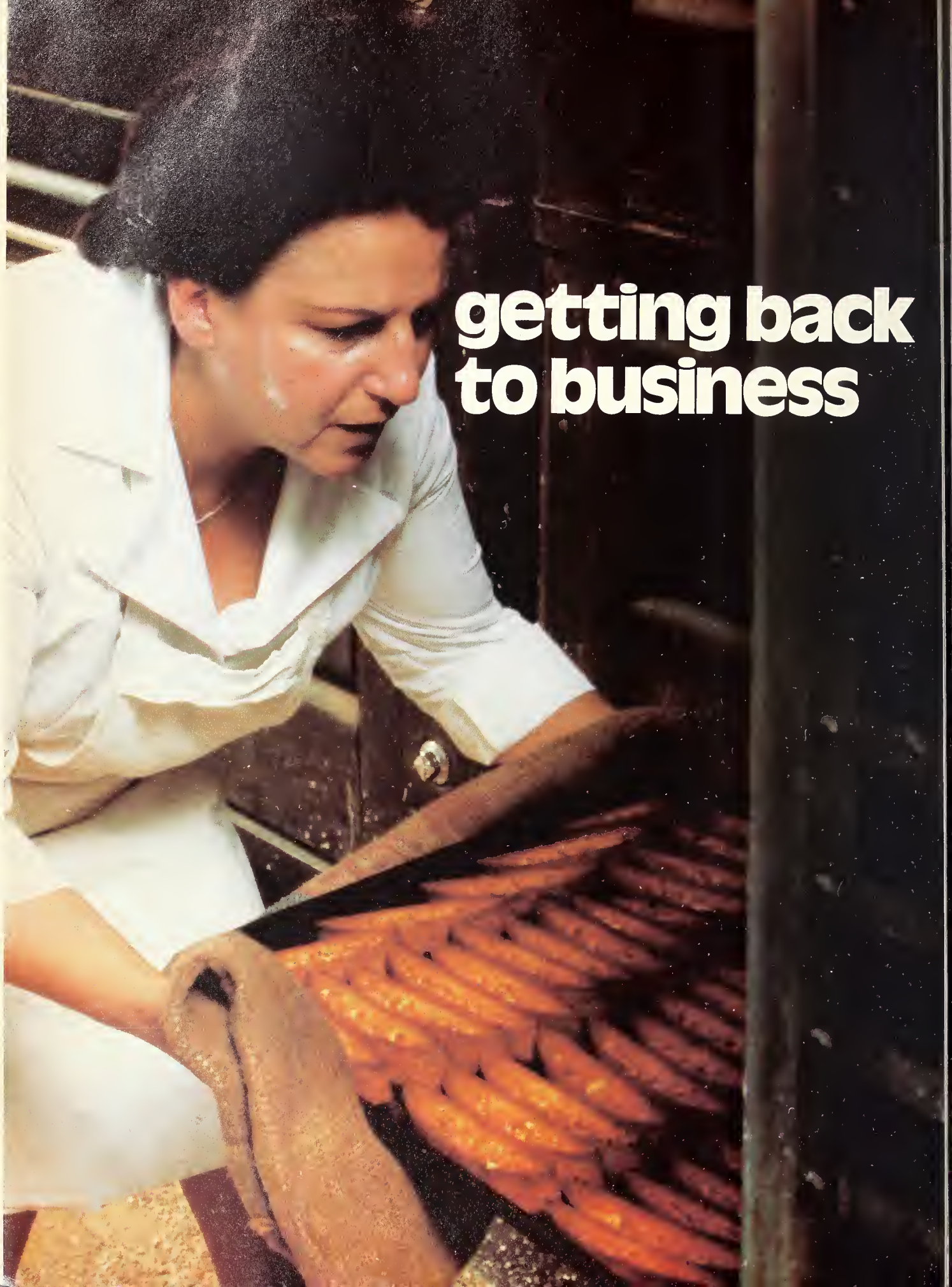
A simple formula often is used by tour groups. It calls for rest stops of a day after crossing four to six time zones, and two days after seven to ten zones. As crossings approach a complete reversal of the day-night cycle, three days of rest are welcomed by any traveler, particularly if in late middle age or afflicted with insomnia.

North-south flights cross no time zones, or only one, and should result in only normal fatigue.

A pretravel health review with your physician may help forestall health emergencies while on tour. There are some individuals who should not board long jet flights. These include women beyond the eighth month of pregnancy, infants less than two weeks old, individuals with contagious disease, those with large unsupported hernias, psychotics, acute respiratory infection patients (severe colds or flu), those with certain heart problems (ask your doctor), and poorly stabilized convalescent postoperative or handicapped people.

Jet lag fatigue may be held to a minimum by proper planning and proper rest on arrival.

August, 1980
Frank Chappell
Science News Editor
AMA



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CONTRAINDICATIONS: Central nervous system depression from drugs (barbiturates, alcohol, narcotics, analgesics, antihistamines); evidence of bone marrow depression; known hypersensitivity to phenothiazines or amitriptyline. Should not be given concomitantly with a monoamine oxidase inhibitor since hyperpyretic crises, severe convulsions, and deaths have occurred from such combinations. When used to replace a monoamine oxidase inhibitor, allow a minimum of 14 days to elapse before initiating therapy with TRIAVIL. Therapy should then be initiated cautiously with gradual increase in dosage until optimum response is achieved. Not recommended for use during acute recovery phase following myocardial infarction.

WARNINGS: TRIAVIL should not be given concomitantly with guanethidine or similarly acting compounds since TRIAVIL may block the antihypertensive action of such compounds. Use cautiously in patients with history of urinary retention, angle-closure glaucoma, increased intraocular pressure, or convulsive disorders. Dosage of anticonvulsive agents may have to be increased. In patients with angle-closure glaucoma, even average doses may precipitate an attack. Patients with cardiovascular disorders should be watched closely. Tricyclic antidepressants, including amitriptyline HCl, have been reported to produce arrhythmias, sinus tachycardia, and prolongation of conduction time, particularly in high doses. Myocardial infarction and stroke have been reported with tricyclic antidepressant drugs. Close supervision is required for hyperthyroid patients or those receiving thyroid medication. May impair mental and/or physical abilities required for performance of hazardous tasks, such as operating machinery or driving a motor vehicle. In patients who use alcohol excessively, potentiation may increase the danger inherent in any suicide attempt or overdosage. Not recommended in children or during pregnancy.

PRECAUTIONS: Suicide is a possibility in depressed patients and may remain until significant remission occurs. Such patients should not have access to large quantities of this drug.

Perphenazine: Should not be used indiscriminately. Use with caution in patients who have previously exhibited severe adverse reactions to other phenothiazines. Likelihood of some untoward actions is greater with high doses. Closely supervise with any dosage. The antiemetic effect of perphenazine may obscure signs of toxicity due to overdosage of other drugs or make more difficult the diagnosis of disorders such as brain tumor or intestinal obstruction. A significant, not otherwise explained, rise in body temperature may suggest individual intolerance to perphenazine, in which case discontinue.

If hypotension develops, epinephrine should not be employed, as its action is blocked and partially reversed by perphenazine. Phenothiazines may potentiate the action of central nervous system depressants (opiates, analgesics, antihistamines, barbiturates, alcohol) and atropine. In concurrent therapy with any of these, TRIAVIL should be given in reduced dosage. May also potentiate the action of heat and phosphorous insecticides. There is sufficient experimental evidence to conclude that chronic administration of antipsychotic drugs which increase prolactin secretion has the potential to induce mammary neoplasms in rodents under the appropriate conditions. There are recognized differences in the physiological role of prolactin between rodents and humans. Since there are, at present, no adequate epidemiological studies, the relevance to human mammary cancer risk from prolonged exposure to perphenazine and other antipsychotic drugs is not known.

Amitriptyline: In manic-depressive psychosis, depressed patients may experience a shift toward the manic phase if they are treated with an antidepressant. Patients with paranoid symptomatology may have an exaggeration of such symptoms. The tranquilizing effect of TRIAVIL seems to reduce the likelihood of this effect. When amitriptyline HCl is given with anticholinergic agents or sympathomimetic drugs, including epinephrine combined with local anesthetics, close supervision and careful adjustment of dosages are required. Paralytic ileus may occur in patients taking tricyclic antidepressants in combination with anticholinergic-type drugs.

Caution is advised if patients receive large doses of ethchlorvynol concurrently. Transient delirium has been reported in patients who were treated with 1 g of ethchlorvynol and 75-150 mg of amitriptyline HCl.

Amitriptyline HCl may enhance the response to alcohol and the effects of barbiturates and other CNS depressants.

Concurrent administration of amitriptyline HCl and electroshock therapy may increase the hazards associated with such therapy. Such treatment should be limited to patients for whom it is essential. Discontinue several days before elective surgery if possible. Elevation and lowering of blood sugar levels have both been reported. Use with caution in patients with impaired liver function.

ADVERSE REACTIONS: Similar to those reported with either constituent alone.
Perphenazine: Extrapyramidal symptoms (opisthotonus, oculogyric crisis, hyperreflexia, dystonia, akathisia, acute dyskinesia, ataxia, parkinsonism) have been reported and can usually be controlled by the concomitant use of effective antiparkinsonian drugs and/or by reduction in dosage, but sometimes persist after discontinuation of the phenothiazine.

Tardive dyskinesia may appear in some patients on long-term therapy or may occur after drug therapy with phenothiazines and related agents has been discontinued. The risk appears to be greater in elderly patients on high-dose therapy, especially females. Symptoms are persistent and in some patients appear to be irreversible. The syndrome is characterized by rhythmical involuntary movements of the tongue, face, mouth, or jaw. Involuntary movements of the extremities sometimes occur. There is no known treatment for tardive dyskinesia; antiparkinsonism agents usually do not alleviate the symptoms. It is advised that all antipsychotic agents be discontinued if the above symptoms appear. If treatment is reinstituted, or dosage of the particular drug increased, or another drug substituted, the syndrome may be masked. Fine vermicular movements of the tongue may be an early sign of the syndrome. The full-blown syndrome may not develop if medication is stopped when lingual vermiculation appears.

Other side effects are skin disorders (photosensitivity, itching, erythema, urticaria, eczema, up to exfoliative dermatitis); other allergic reactions (asthma, laryngeal edema, angioneurotic edema, anaphylactoid reactions); peripheral edema; reversed epinephrine effect; hyperglycemia; endocrine disturbances (lactation, galactorrhea, gynecomastia, disturbances of menstrual cycle); altered cerebrospinal fluid proteins; paradoxical excitement; hypertension, hypotension, tachycardia, and ECG abnormalities (quinidine-like effect); reactivation of psychotic processes; catatonic-like states; autonomic reactions, such as dry mouth or salivation, headache, anorexia, nausea, vomiting, constipation, obstipation, urinary frequency or incontinence, blurred vision, nasal congestion, and a change in pulse rate; other adverse reactions reported with various phenothiazine compounds, but not with perphenazine, include grand mal convulsions, cerebral edema, polyphagia, pigmentary retinopathy, photophobia, skin pigmentation, and failure of ejaculation.

The phenothiazine compounds have produced blood dyscrasias (pancytopenia, thrombocytopenic purpura, leukopenia, agranulocytosis, eosinophilia); and liver damage (jaundice, biliary stasis).

Pigmentation of the cornea and lens has been reported to occur after long-term administration of some phenothiazines. Although it has not been reported in patients receiving TRIAVIL, the possibility that it might occur should be considered.

Hypnotic effects, lassitude, muscle weakness, and mild insomnia have also been reported.

Amitriptyline: Note: Listing includes a few reactions not reported for this drug, but which have occurred with other pharmacologically similar tricyclic antidepressant drugs and must be considered when amitriptyline is administered. *Cardiovascular.* Hypotension; hypertension; tachycardia; palpitation; myocardial infarction; arrhythmias; heart block; stroke. *CNS and Neuromuscular:* Confusional states; disturbed concentration; disorientation; delusions; hallucinations; excitement; anxiety; restlessness; insomnia; nightmares; numbness, tingling, and paresthesias of the extremities; peripheral neuropathy; incoordination; ataxia; tremors; seizures; alteration in EEG patterns; extrapyramidal symptoms; tinnitus; syndrome of inappropriate ADH (antidiuretic hormone) secretion. *Anticholinergic:* Dry mouth; blurred vision; disturbance of accommodation; increased intraocular pressure; constipation; paralytic ileus; urinary retention; dilatation of urinary tract. *Allergic:* Skin rash; urticaria; photosensitization; edema of face and tongue. *Hematologic:* Bone marrow depression including agranulocytosis; leukopenia; eosinophilia; purpura; thrombocytopenia. *Gastrointestinal:* Nausea; epigastric distress; vomiting; anorexia; stomatitis; peculiar taste; diarrhea; parotid swelling; black tongue. Rarely hepatitis (including altered liver function and jaundice). *Endocrine:* Testicular swelling and gynecomastia in the male; breast enlargement and galactorrhea in the female; increased or decreased libido; elevated or lowered blood sugar levels. *Other:* Dizziness, weakness; fatigue; headache; weight gain or loss; increased perspiration; urinary frequency; mydriasis; drowsiness; alopecia. *Withdrawal Symptoms.* Abrupt cessation after prolonged administration may produce nausea, headache, and malaise. These are not indicative of addiction.

OVERDOSAGE: All patients suspected of having taken an overdosage should be admitted to a hospital as soon as possible. Treatment is symptomatic and supportive. However, the intravenous administration of 1–3 mg of physostigmine salicylate is reported to reverse the symptoms of tricyclic antidepressant poisoning. Because physostigmine is rapidly metabolized, the dosage of physostigmine should be repeated as required particularly if life-threatening signs such as arrhythmias, convulsions, and deep coma recur or persist after the initial dosage of physostigmine. On this basis, in severe overdosage with perphenazine-amitriptyline combinations, symptomatic treatment of central anticholinergic effects with physostigmine salicylate should be considered. J9TR33 (DC6613215)

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The Trend to Outpatient Care: I. "In-and-Out" Surgery

Wyatt S. Beazley, III, MD, *Richmond, Virginia*

PHYSICIANS and hospitals are increasingly aware of the accelerated cost of medical care and are continually exploring methods of providing quality services at lesser cost. One idea that has gained the attention of both providers and consumers of health care is "one-day" or "in-and-out" surgery.

A program in support of such surgery was established three years ago at the Stuart Circle Hospital, Richmond, Virginia. Reviewed here are the program's experiences of one year.

Stuart Circle Hospital is a 153-bed, medical/surgical facility. The one-day surgery program was established three years ago, utilizing existing facilities and requiring no renovations or additions. The program was constantly revised until the present system was adopted 15 months ago. For the program to be successful, it was felt that it must satisfy the following criteria: 1) It must provide good medical care; 2) there must be patient and physician acceptance; and 3) cost effectiveness must be demonstrated.

The one-day surgery program operates two days a week and is coordinated by a registered nurse, with whom lies much of the credit for the success of the program. Patients who qualify for the program are those who may require a general or regional anesthetic but who may be safely discharged later in the day of surgery. Operations have included D&Cs, breast biopsies, male and female sterilizations, Bartholin cyst marsupilizations, cystoscopies, circumcisions, needle biopsies of the prostate, anal fissurectomies, infant herniorrhaphies, tendon repairs, toenail surgery, closed reduction of nasal fractures and minor ear procedures.

Address correspondence to the author at 1805 Monument Avenue, Richmond VA 23220.

Submitted 5-22-80.

The cases are posted with the nurse coordinator through the operating room secretary. The coordinator then sends a letter of instruction to the patient and follows with a phone call repeating the instructions and answering any questions the patient may have. The patients come to the hospital 24 to 72 hours prior to surgery for physician-ordered preoperative studies. On the day of surgery, the patient is met at the hospital by the coordinator and escorted to a holding area, where he is seen by the surgeon and anesthesiologist. Following completion of surgery, the patient is observed for two to four hours and then discharged with written instructions. A followup phone call is made by the coordinator the next day.

In the 12 months of 1979, 190 surgical procedures were performed in the one-day surgery program. Patients ranged from age 14 weeks to 71 years. There was progressively increased utilization of the program through the year: In the first three months, Jan through March, 15 cases; in the second quarter, up to 49; from July through September, 51 cases, and in the last quarter, 75 cases.

Five patients (2.6%) scheduled for one-day stays required admission to the hospital for management of minor problems, but all were discharged the following day. They were a 69-year-old male admitted for needle biopsy of the prostate who experienced profuse bleeding; a 15-year-old male admitted for

Table 1. Cost Comparison of One-Day Surgery and Hospitalization for D&C and Breast Biopsy at Stuart Circle Hospital During 1979.

	D&C		Breast Biopsy	
	Hospitalized	One-Day Surgery	Hospitalized	One-Day Surgery
Number of patients	227	43	162	50
Patient Days	543		470	
Average cost per patient	$704	$448	$804	$404
Savings		$256		$400

tendon repair and a 47-year-old male with a soft tissue mass of the neck who were slow in recovering from anesthesia; and two females in their 30s, both admitted for laparoscopies. A mini laparotomy was dictated by obesity for one of these women; the other was kept overnight because her blindness handicapped her ability to care for herself at home.

No patient discharged from the program has had to be readmitted, and the low rate of complications has contributed strongly to our physicians' acceptance and utilization of the program. The program has been well accepted by patients, also.

As for costs, we have compared the average cost of Stuart Circle's hospitalized patients and one-day surgery patients in two categories, D&Cs and breast biopsies, in the last quarter of 1979, during which period 35% of the D&Cs and breast biopsies performed at the hospital were done as one-day stays, and the results are shown in Table 1.

For the entire year 1979, one-day surgery for D&Cs and breast biopsies at Stuart Circle Hospital saved the consumer an estimated $31,000.

Summary

At Stuart Circle Hospital, one-day surgery has proved safe, cost effective, and acceptable to both surgeons and patients. Because no additional equipment is required, a similar program can be established in any hospital without great expenditure.

The author acknowledges with gratitude the assistance in the preparation of this article of Nellie C. Dickenson, RN, coordinator of the one-day surgery program, and Catherine T. Steeley, RN, who assembled the data.

II. Ambulatory Cardiac Catheterization

Charles L. Baird, Jr., MD, *Richmond, Virginia*

THE diagnosis and treatment of ischemic heart disease was revolutionized 20 years ago by the introduction of selective coronary ateriography, and since then the technique has so evolved that it now can be performed safely on an outpatient basis, reducing costs and inconvenience to the patient. Of 600 diagnostic coronary ateriograms reported by Judkins[1] in 1968, 40% were performed on an outpatient basis, and Schneider[2] reported in 1975 that 54.3% of all patients undergoing cardiac catheterization under his care were catheterized as outpatients.

This article reviews the outpatient cardiac catheterization program at the Virginia Heart Institute in Richmond since its inception in 1973.

Address correspondence to the author at the Virginia Heart Institute, 205 North Hamilton Street, Richmond VA 23221.

Submitted 3-13-80.

Materials and Methods

Candidates acceptable for outpatient cardiac catheterization are clinically stable, ambulatory adults with arteriosclerotic, valvular, or congenital heart disease. Unacceptable for the technique are patients with recent myocardial infarctions, arrthythmias, or severe congestive heart failure, or hospitalized patients with unstable angina complicated by hemodynamic impairment or other serious complications requiring intensive care.

Certain conditions, such as left main coronary stenosis and severe aortic stenosis, do not rule out ambulatory cardiac catheterization but do present increased risk for the procedure.[3,4] At the Virginia Heart Institute, these patients receive initial non-selective visualization followed by selective coronary arteriography. Some are hospitalized prior to the procedure, and almost all are hospitalized afterwards, for extended monitoring and consideration of surgical therapy. Additionally, for the high risk pa-

tient the procedure is scheduled at a time when an open heart surgery team is available, so that prompt referral can be made if necessary.

Improved equipment design has been of great importance in shortening to less than one hour the procedure time of ambulatory cardiac catheterizations. Our laboratory currently includes a Philips Cardio-Diagnost, which circumvents the repositioning that was necessary with previous radiographic equipment; Electronics for Medicine VR-12 multi-channel recorder; Sony AB 36000 video-recorder; American Optical oximeter; Angiomat 3000 Viamonte-Hobbs injector; and "Old Delft" Comilabor film processor.

Preparation for the procedure includes the maintenance of nutrition and hydration to avoid weakness hypotension. Preoperative sedation and other drugs are avoided; this allows unimpaired communication with the patient during the catheterization and eliminates potential hypotensive agents, which could prolong the procedure and recovery.

The technique of choice at the Virginia Heart Institute is the Sones transbrachial left heart technique. This approach offers the advantage of immediate ambulation, whereas the Judkins percutaneous transfemoral left heart technique subjects the patient to prolonged hemostasis.

Although Schneider[2] reports utilizing an 8-hour post-catheterization observation period, the experience at the Virginia Heart Institute has led to a simplified protocol in which the patient is monitored for one hour, with blood pressure, pulse and general condition closely followed, and is then discharged if no complications or high risk indications have been identified.

Results

Cardiac catheterization including coronary arteriography was performed on 700 ambulatory patients at the Virginia Heart Institute during a 4½-year period beginning March 1973, interrupted for 1½ years due to a fire at the facility late in 1975, then resumed and concluded March 1979. Of these 700 patients, the records of 620 were available for analysis in this report.

Diagnoses in these 620 patients after catheterization were ischemic heart disease, 59.7%; normal, 28.9%; valvular disease, 9.5%; myocardiopathies, 1.3%; and congenital heart disease, 0.6%.

The major complications associated with cardiac catheterization today are primarily catheter related, i.e., mechanically induced trauma which may occur from the site of the catheter's insertion to the aortic root. The most frequent of these problems encountered at the Institute was brachial arterial thrombosis, with an occurrence rate of 2%. Surgical repair is recommended in patients who develop symptoms of coldness and parathesias in an extremity.

Three categories of management problems were experienced during the 620 catheterizations: transient arrhythmias, hypotension and angina pectoris. All were treated appropriately during the procedure.

Major complications requiring hospitalization after catheterization were encountered in only six of the 620 patients, or less than 1%. Of these, only one required immediate transfer to a hospital, for treatment of sustained, unresponsive ventricular fibrillation ten minutes after cardiac catheterization for left main coronary arterial stenosis, a high risk condition; at the hospital, emergency aorto-coronary bypass procedure was unsuccessful and the patient died.

The complications in the other five of these patients were air embolism, myocardial infarction, aortic dissection, ventricular tachycardia with arrest and knotted catheter. These complications were successfully managed.

The type and incidence of these complications are similar to those reported by Adams et al[5] in an analysis of 46,904 patients catheterized by either the transbrachial or percutaneous transfemoral technique, although our much smaller series cannot be compared with scientific validity to such a large group.

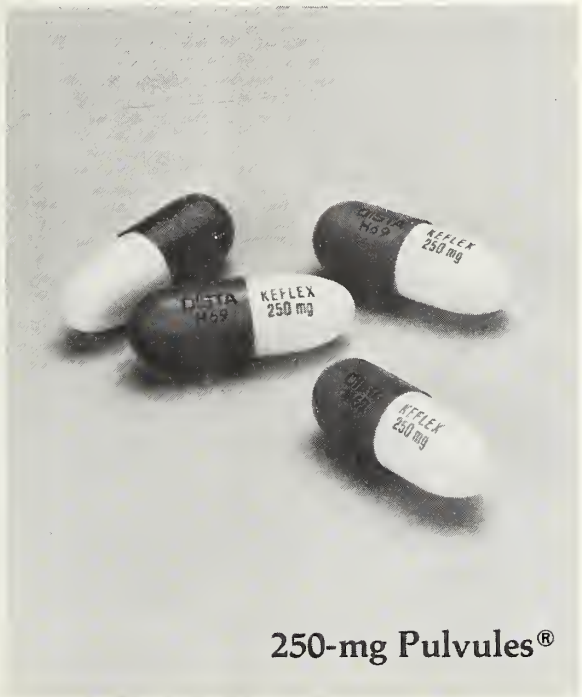
Summary

The experience of the Virginia Heart Institute should encourage Virginia's hospitals, planning agencies and physicians to consider ambulatory catheterization as a cost effective method for the early identification of ischemic heart disease.

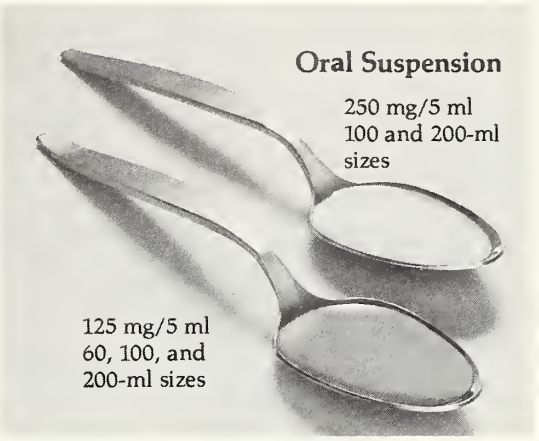
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Gelfoam Embolization Complicated by Splenic Abscess

Lawrence J. Eron, MD, and Laurence Clark, MD,
Fairfax, Virginia

THE use of gelfoam embolization to occlude the source of gastrointestinal bleeding has been used with considerable success recently[1-3]. Occasionally, the emboli travel to the liver and spleen, because of the proximity of the origins of the hepatic and splenic arteries to the left gastric artery. When this occurs there may be focal infarction of the liver and spleen. We report a case of splenic abscess and infarction of the spleen induced by gelfoam embolization.

Case Report

A 52-year-old white male was admitted to the Fairfax Hospital with rigors and left flank pain of 2 days duration. The patient had been admitted 4 weeks previously with gastrointestinal bleeding secondary to an esophageal tear at the gastroesophageal junction. He was treated by celiac artery catheterization and gelfoam embolization of the left gastric artery. During embolization, it was noted that some gelfoam was inadvertantly directed into the hepatic and splenic arteries as confirmed by arteriography (Fig. 1). However, he recovered without difficulty and was discharged well. Two weeks later he became aware of a nagging sharp pain in the left flank. He developed frank rigors and was admitted to the hospital. He denied trauma to his abdomen. On examination he was afebrile with clear lungs and normal cardiac sounds. He had marked tenderness of the left flank but no bruits or rubs were audible. The liver was normal in size and the spleen was non-palpable. Bowel sounds were normal.

The white blood count was 10,500/cu mm with a normal differential. The hematocrit was 31.4%. The platelet count was 375,000/cu mm. The prothrombin time was normal. The SGOT was 10 International Units, alkaline phosphatase 54 International Units, and bilirubin 0.6 mg/dl. Electrolytes, BUN and creatinine were all normal. The chest x-ray showed atelectasis at the left base. The electrocardiogram was within normal limits. Urinalysis was unremarkable. Cultures of the blood and urine were negative.

The patient developed a sudden rigor with a temperature elevation to 39°C orally on the first hospital day. He became tachypneic and his tenderness worsened. He was begun on clindamycin 600 mg intravenously every 6 hours and gentamicin 80 mg every 8 hours. A liver-spleen scan showed multiple defects in the spleen but none in the liver (Fig. 2). Four days later his spleen was removed. On gross examination the spleen was infarcted and contained one large and several small abscesses that corresponded to the filling defects on the scan. Gram stain of the abscess contents showed gram-positive rods and gram-positive cocci (Fig. 3). However, the culture was negative both aerobically and anaerobically. His postoperative course was uneventful and antibiotics were discontinued on discharge 7 days later.

Discussion

Abscess of the spleen is seen characteristically in one of several settings[4-6]. It occurs with septic embolization, especially in drug addicts with endocarditis. It can also develop in patients with primary diseases of the spleen, such as hemoglobinopathies, as well as in patients with traumatic injuries to the spleen which produce hematomas. The in-

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Submitted 12-15-79.

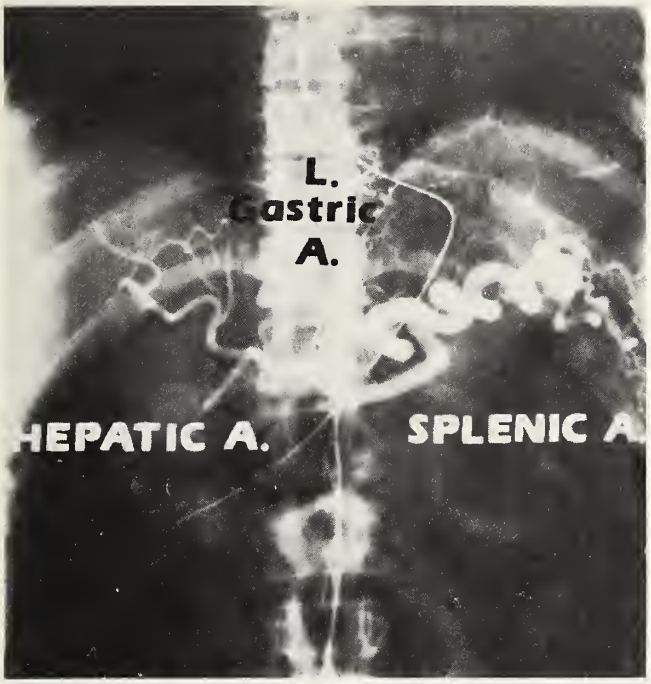
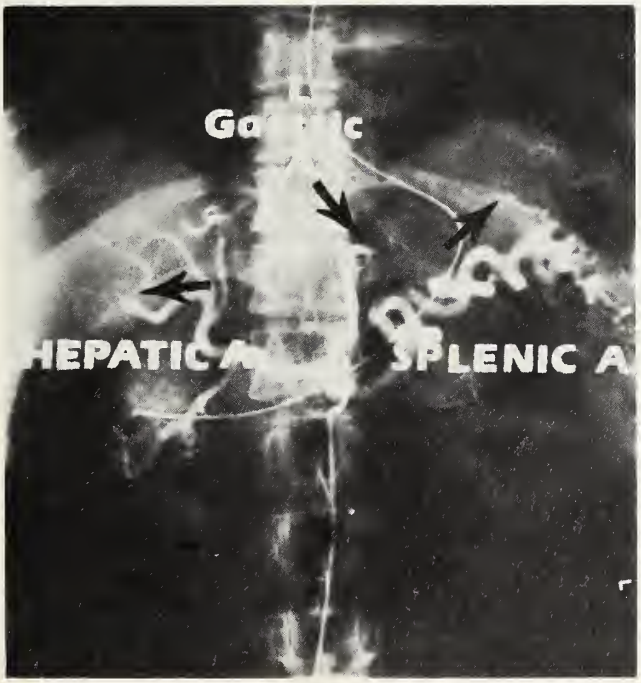


Fig. 1: Celiac angiogram before (above) and after (below) gelfoam embolization of left gastric artery. Arrows in bottom figure indicate pruning of hepatic, left gastric and splenic arteries due to gelfoam emboli.



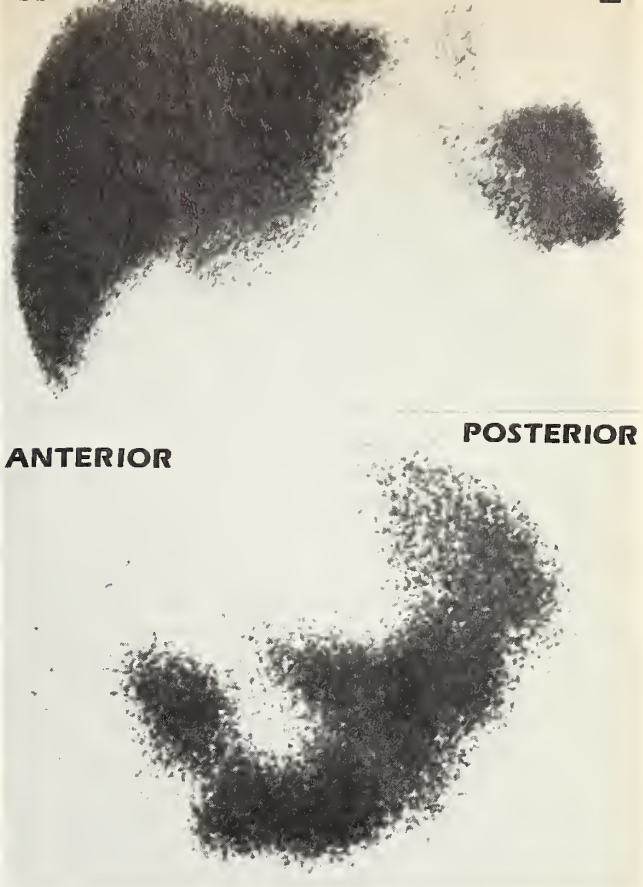


Fig. 2: Liver-spleen scans: anteroposterior view (top) and left lateral view (bottom) with anterior surface of spleen on left.

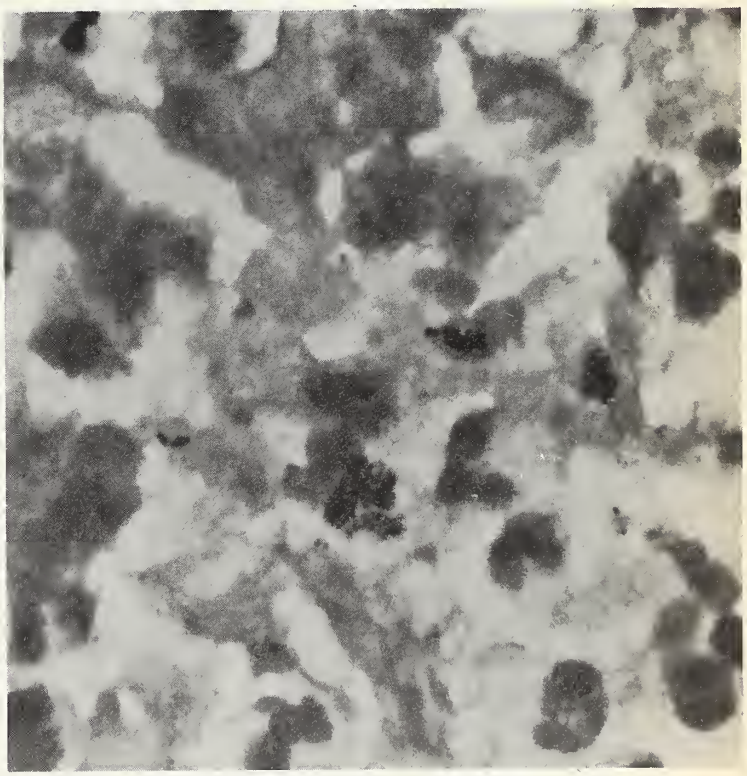


Fig. 3: Gram stain of abscess contents. Gram-positive cocci and bacilli are visible amidst polymorphonuclear leukocytes (×1000).

fection can be seeded to the spleen via bacteremias or by local extension from an adjacent infected focus. In most cases, a disruption of the normal anatomy and/or function of the spleen seems to precede the development of the abscess. This impression is corroborated by animal experiments[7] in rabbits whose spleens are traumatized or infarcted by ligation of the splenic artery. In these animals, as compared to normals, intravenous injection of bacteria readily produces abscesses.

In the case reported here, the development of a splenic abscess occurred following angiographically documented emboli to the spleen from injection of the left gastric artery with gelfoam to halt gastrointestinal bleeding. Several weeks following this event, the patient became febrile and developed left flank tenderness. The spleen scan revealed multiple filling defects, and an infarcted spleen with multiple abscesses was removed surgically under antibiotic coverage. The abscess contents showed a mixture of gram-positive rods and cocci on Gram stain. No organisms grew out on culture, perhaps because of prior antibiotic therapy or because they were fastidious anaerobes. The patient responded promptly to splenectomy and antibiotic therapy.

While embolization of the liver and spleen, a common complication of gelfoam embolization to control upper GI bleeding, may occur without sequelae, this case documents that physicians should be alert to this possibility to insure its prompt recognition and treatment with antibiotics and splenectomy.

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Current Treatment of Pituitary Adenomas: A Review

David Elkon, MD, *Charlottesville, Virginia*

TUMORS of the pituitary gland are largely benign lesions. By virtue of their position, size and hormonal secretions, however, they can cause severe neurologic, visual and endocrine disturbances. Effective treatment is therefore of considerable importance.

Ionizing radiation and surgery have for many years been the mainstays of therapy for control of these tumors. The first report of the removal of a pituitary tumor by the transsphenoidal route was made by Schloffer in 1906. Since then there have been many refinements of this technique as well as the development of an intracranial approach. More recently, transsphenoidal extracranial surgery has benefitted from the introduction of televised radiofluoroscopic control, the surgical microscope and development of microsurgical dyssection techniques.

In 1909 Beclere published his pioneer work on the x-ray treatment of "acidophil" adenoma of the pituitary.[1] Since then there have been many reports detailing control of tumors of this region by radiotherapy, used either alone or after surgical resection. In recent years with the use of megavoltage therapy, irradiation of the pituitary region has become possible without incurring any significant normal tissue side-effects. The use of particle beam irradiation has further increased the capacity for depositing large amounts of energy in the pituitary fossa while sparing surrounding structures.[2]

Along with improvements in our ability to obtain tissue biopsies and to treat pituitary tumors, there have been advances in other areas. Radioimmunoassays can now be used to evaluate pituitary secretory functions. Basal hormone levels and pituitary reserve can be measured. Computer aided tomographic x-rays with thin slices can demonstrate small adenomas within the gland and better define tumor extension beyond the pituitary fossa. Using electron microscopy and immunostaining techniques new histologic classifications are being employed; these take into account the functional aspects of the tumors. Because of the long followup periods necessary to evaluate the results of treatment, however, most reported series have not used the newer histologic classification in reporting their results. This review will deal with the major classes of primary pituitary tumors: 1) non-functioning pituitary adenomas; 2) acromegaly; 3) Cushing's disease; 4) prolactinoma.

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Chromophobe Adenomas

Chromophobe adenomas form 80% of all pituitary tumors. They most frequently occur in the age group 30-50 years.

These tumors are usually benign, slow-growing and encapsulated. The onset of clinical symptoms is most often insiduous, with headaches and decreased visual acuity. With further growth, visual field defects, including bitemporal hemianopia and optic atrophy may develop. The patients frequently give a long history of amenorrhea or loss of libido. Symptoms of hypothyroidism or hypoadrenalism may also occur.

The extent of tumor involvement is assessed by the presence or absence of visual or other neurologic signs and roentgenographic investigations (skull films, angiography, pneumoencephalography, and CAT scanning). Treatment is dependent on these findings. Provided there is no visual impairment or significant suprasellar extension, chromophobe adenomas have been adequately treated by radiotherapy only. This treatment should follow transsphenoidal biopsy, to establish the diagnosis, and cyst drainage in the small proportion of tumors (20%) that are cystic.

In Table 1 the results of treatment of chromophobe adenomas in a number of large series are compared. It is apparent that the control rate with irradiation and combined treatment is high. In small tumors with no visual symptoms, radiation alone is effective in maintaining this condition.[3] It also improves the symptoms of headache and obtains tumor control with a high frequency.[3-5] The advantage of using radiotherapy alone for small lesions

Table 1. Results of Treatment of Chromophobe Adenoma.

Author	Treatment	Tumor Control[A]	Visual Improvement[A]	Improvement in Headaches[A]	Hypopituitarism[A]
Bouchard[4]	Irradiation	71			
	Irradiation & surgery	82			
Chang & Pool[1]	Irradiation		78		
	Irradiation & surgery		88		
Pistenma[5]	Irradiation	90[B]	46		30
	Irradiation & surgery	85	83		65
Urdanetta[6]	Irradiation		80		
Erlichman[3]	Irradiation	94[C]	50	93	
	Irradiation surgery	85	74	95	

A. All expressed as percentage of cases evaluated.
B. Surgery used for recurrent disease.
C. Tumors confined to pituitary gland selected for irradiation only.

is apparent from a comparison of the incidence of post treatment hypopituitarism.[5]

In large lesions, combined treatment of surgery and postoperative irradiation is more effective in improving visual symptoms and signs[3,5] and is also more effective at controlling tumors with suprasellar extension.[6]

Patients who are treated for chromophobe adenomas should have careful followup, with frequent documentation of visual fields and endocrine status. If tumor recurs, surgical resection is the treatment of choice.

Acromegaly

Acromegaly is usually caused by a small tumor within the anterior pituitary gland that secretes growth hormone (GH). The classical symptoms and signs of acromegaly are due to long-standing hypersecretion of growth hormone. If these tumors are not treated, there is a persistent hypersecretion of growth hormone, and the life-span of the patient is shortened by a variety of metabolic and endocrine disorders.

Many methods have been employed in treating these tumors, including conventional external beam radiotherapy, implantation of radioactive sources, particle beam irradiation (proton and helium ion), surgical removal of the entire pituitary gland and attempts to selectively remove the adenoma transsphenoidally. Employing microsurgical techniques, transsphenoidal adenodectomy seems to hold the most promise for selective removal of these adenomas.[7] However, the technique is not always successful and other methods may be required.

Conventional external beam irradiation has been reported to control elevated growth hormone levels in eosinophil adenomas in 60-80% of patients.[4] Growth hormone levels may, however, take several months to decrease. In recent years there has been considerable interest in employing particle beam radiation for acromegaly. Lawrence et al[2] and others have consistently reported greater that 80% decrease in growth hormone levels. However, this method suffers from a number of disadvantages: particle beams are available only in a few geographical areas, and patient positioning for this treatment must be precise, otherwise severe complications, mainly related to destruction of the optic chiasm or optic nerves, will occur. Nevertheless, in skilled hands this is an effective treatment.

Some authors have advocated routinely using total hypophysectomy as treatment. This obviously has the disadvantage of leading to panhypopituitarism and necessitating life-long hormonal replacement.

Cushing's Disease

Cushing's disease, or pituitary ACTH hypersecretion, is most frequently related to a small adenoma of the anterior pituitary. This tumor is seldom associated with enlargement of the sella turcica.

The patient can be protected effectively from the effects of hyperadrenocorticism by bilateral adrenalectomy. However, this has been associated not only with significant surgical complications but also a syndrome of hyperpigmentation of

the skin and mucous membranes, as well as progressive enlargement of the pituitary (Nelson's syndrome) in 10-30% of patients. External beam radiotherapy has been administered to the pituitary gland prior to adrenalectomy and has been reported successful in greatly decreasing the frequency of Nelson's syndrome. After radiotherapy, 50-60% of patients have long-lasting decrease in ACTH levels and improvement in symptoms. In children, tumor control is more frequent, with therapy being curative in 80% of patients.

In recent years there have been reports indicating that pituitary adenomas associated with Cushing's disease can be removed by transsphenoidal microsurgery. Tyrrell et al[8] reported successful removal of 17/18 pituitary microadenomas with preservation of other pituitary endocrine functions. Selective adenodectomy, in Cushing's disease, is an alternative to bilateral adrenalectomy, as it may obviate life-long therapy. However, long-term results will need to be evaluated before the success of this technique can be demonstrated.

Prolactinoma

Prolactin-secreting adenomas of the pituitary have recently been shown to be quite common, accounting for 20-30% of otherwise unexplained secondary amenorrhea and up to one-third of cases of galactorrhea-amenorrhea.[9] The incidence is lower in males, where it is associated with impotence and hypogonadism.

The treatment of patients with prolactinoma is somewhat controversial. Transsphenoidal adenodectomy is successful in over 80% of patients with small tumors.[10] With larger tumors the control rate falls to less than 50% with surgery.[9] There have been few reports on treatment of these tumors with irradiation. Bromocriptine, an ergot alkaloid and dopamine agonist, has been shown to be a potent inhibitor of prolactin release, and will reverse symptoms in 80% of patients with prolactinomas.[10]

Therapy is further complicated by the fact that little is known of the natural history of this tumor. In general, the choice of therapy will depend on whether the female patient desires to become pregnant and whether there are symptoms of compression by the tumor. Adenomas have been shown to enlarge during pregnancy and prior surgical resection is advocated. Also, if there are symptoms of compression, surgical adenodectomy is indicated. Greater use of postoperative radiotherapy for larger tumors should be considered. In the patient who does not wish to become pregnant and does not have compressive symptoms, long-term bromocriptine therapy has been used outside the United States; there are side effects associated with long-term bromo criptine use, however, and the drug has only recently been approved for use by the Federal Drug Administration.

Though benign in histology appearance, pituitary adenomas can cause severe patient morbidity and lead to mortality. Advances in surgical technique, radiotherapy and medical treatment have led to improvement in tumor control and should improve the length and quality of life for these patients.

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Diagnostic Value of Tomography For Cervical Spine Injuries

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TREATMENT of injuries to the cervical spine is based on accurate radiographic demonstration of traumatic abnormalities. Unfortunately, in a traumatized patient the plain films are often obtained under suboptimal conditions, and questions in interpretation are often raised. Therefore, several authors[1,2] have suggested that tomography be obtained routinely. We have tried to evaluate the usefulness of this approach in patients with acute trauma to the cervical spine. At the same time we have tried to evaluate the influence of tomography in the subsequent treatment.

Method

In the 18-month period ending January 1, 1979, tomography of the cervical spine was performed on 57 patients with clinical or radio-



Fig. 1A. No fracture identified in plain film of 20-year-old male patient with neck pain following auto accident, no neurological deficit.

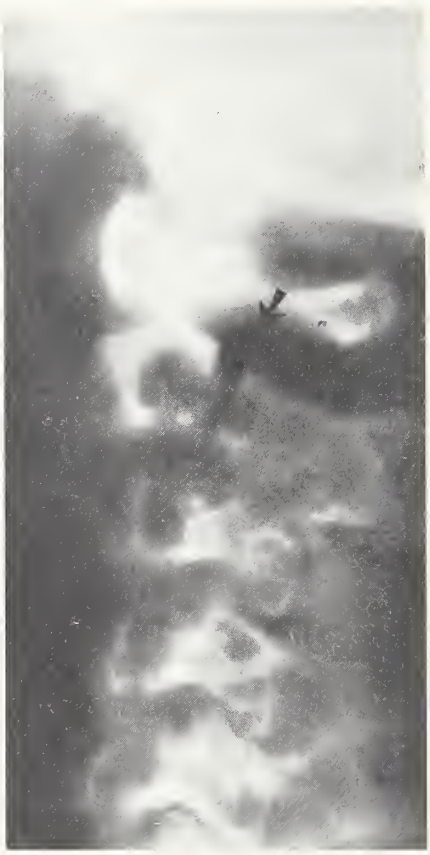


Fig. 1B. Tomogram in lateral projection shows bilateral traumatic spondylolisthesis of C-2 (hangman's fracture only on side shown).

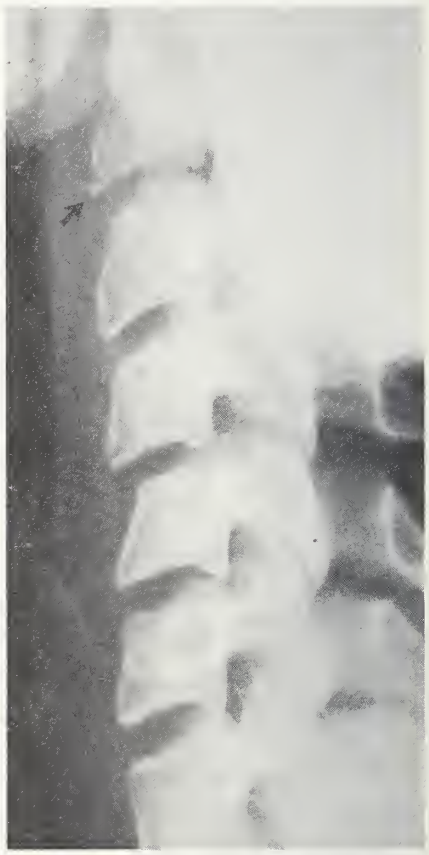


Fig. 2A. Plain film of 17-year-old female, auto crash victim, no neurological deficit: subluxation C-4 on C-5, small chip fracture lower anterior corner C-2.

graphic findings suggestive of significant spinal injury. The following criteria were used for selection of patients for tomography:

1. Suspicious radiographic findings (including patients with indirect findings suggestive of a fracture, subluxation, isolated soft-tissue swelling and a compression fracture of undetermined age).

2. Known fracture on plain films.

3. Clinical suspicion (patients with no radiographic abnormality but with post-traumatic neurological deficit).

The statistical breakdown of the patients in this study and their mode of injury is: 41 or 72% of the patients were male, 16 or 28% female. The mean age was 36 years, the range being 6 to 80 years. Car accidents were responsible for injuries in 35 or 61% of the patients, 14 or 25% sustained a fall, three were involved in a train wreck, and there were five miscellaneous cases, including one skiing and two football injuries.

Results

As expected, tomography was more accurate than the plain films in diagnosing the number and extent of fractures that could be seen. The results based on the initial three groups:

1. Group 1, those with suspicious radiographic findings but no fracture on the plain films: 26 patients. One patient in this group had a congenital abnormality of dens, 20 patients or 77% did not have any fracture, but five patients or 19% showed one or more fractures on tomography (Fig. 1).

2. Group 2, showing fractures on the plain film, was the largest, with 28 patients. In this group, 19 patients or 68% did not show any change following tomography, but 9 patients or 32% showed more extensive fractures (Fig. 2).

3. Group 3, those with clinical suspicion but no fracture on plain films: three patients, in each of whom one or more fractures was discovered on tomography.

Also, 36 patients or 63% of the whole group had one or more fractures, and eight patients or 14% with negative plain films revealed one or more fractures on tomography.

Discussion

What about the effect of tomography on the subsequent treatment? It was not always clear whether any treatment had been planned, based on the plain films, but correlating



Fig. 2B. Tomogram in frontal projection reveals fracture lateral portion of body of C-2. (Also fractures of posterior arch C-1 and lateral mass C-4 on left.)



Fig. 3A. Plain film of 51-year-old female shows subluxation of C-4 on C-5, no fracture; degenerative changes; partial fusion of C-2 and C-3.



Fig. 3B. Lateral tomogram reveals subluxation of C-4 and C-5 and fracture of odontoid process (arrow) but no other fracture.

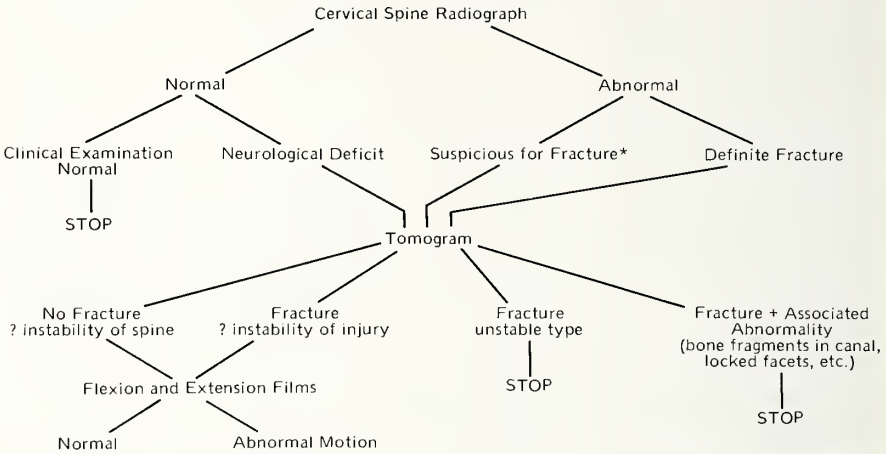


Fig. 4. Steps in the radiographic evaluation of patients with acute cervical spine trauma. Reproduced by permission from *Radiology*.[3]

the plain films and tomographic findings with the patient's chart often indicated a significant discrepancy of such a nature that a different therapy would have been pursued based solely upon one study. Thirteen patients met these criteria. One of these, an elderly lady, showed no fracture on the plain films, but the neurosurgical resident disagreed and put the patient in tongs. Tomography the following day revealed no fracture, and the patient was discharged.

Twelve patients or 21% of the whole group received no treatment following the plain films, but operative fusion was performed in two patients and external immobilization in ten patients following tomography.

One group of fractures warrants special mention: odontoid process fracture, which is a relatively common injury. It may occur with minor trauma and is often overlooked, partly because the trauma is trivial and no radiography performed, or because the patient is uncooperative or comatose and the films inadequate.

Our material revealed nine patients with solitary fractures of the odontoid process and two patients with fractures of the odontoid process associated with other cervical spine fractures, making a total of 11 patients or 30.5% of those with fractures. The surprising and also disappointing fact was that we missed five of the 11 odontoid fractures, four on the plain films (Fig. 3) and one on tomography. This is the more surprising when we note that only four fractures in the lower cervical and upper thoracic spine were missed.

Absence of a cervical spine fracture on tomography should not be considered as a normal study, since the patient may still have a significant ligamentous injury with cervical spine instability. This can be diagnosed on carefully obtained flexion and extension views. The flow chart (Fig. 4) from Kenneth Maravilla's article about the effect of thin-section tomography on the treatment of cervical spine injuries[3], is, in our opinion, an excellent approach to the diagnosis of cervical spine fractures and ligamentous injuries.

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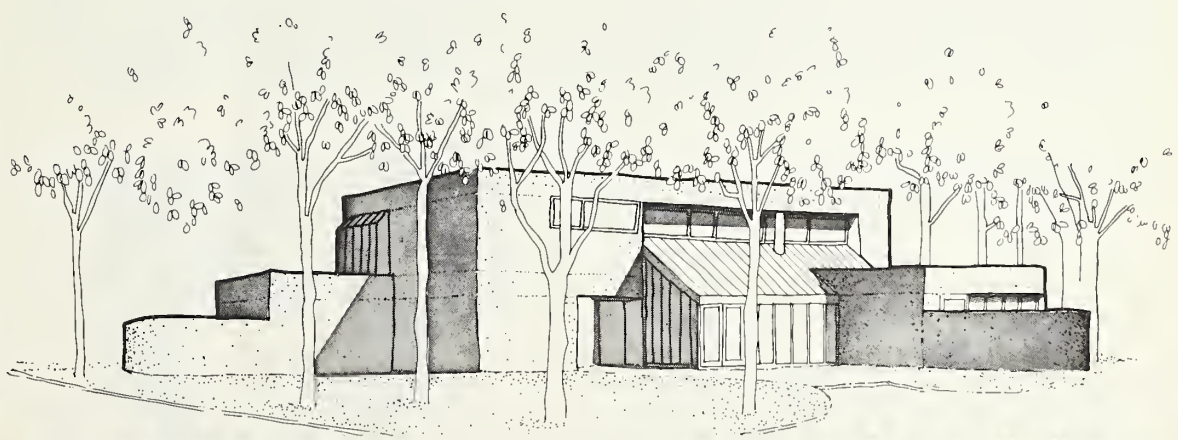
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Cinchona alkaloids, including quinine, have the potential to depress the hepatic enzyme system that synthesizes the vitamin K-dependent factors. The resulting hypoprothrombinemic effect may enhance the action of warfarin and other oral anticoagulants.

ADVERSE REACTIONS: Aminophylline may produce intestinal cramps in some instances, and quinine may produce symptoms of cinchonism, such as tinnitus, dizziness, and gastrointestinal disturbance. If ringing in the ears, deafness, skin rash, or visual disturbances occur, the drug should be discontinued.

DOSAGE AND ADMINISTRATION:
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Product Information as of September, 1977

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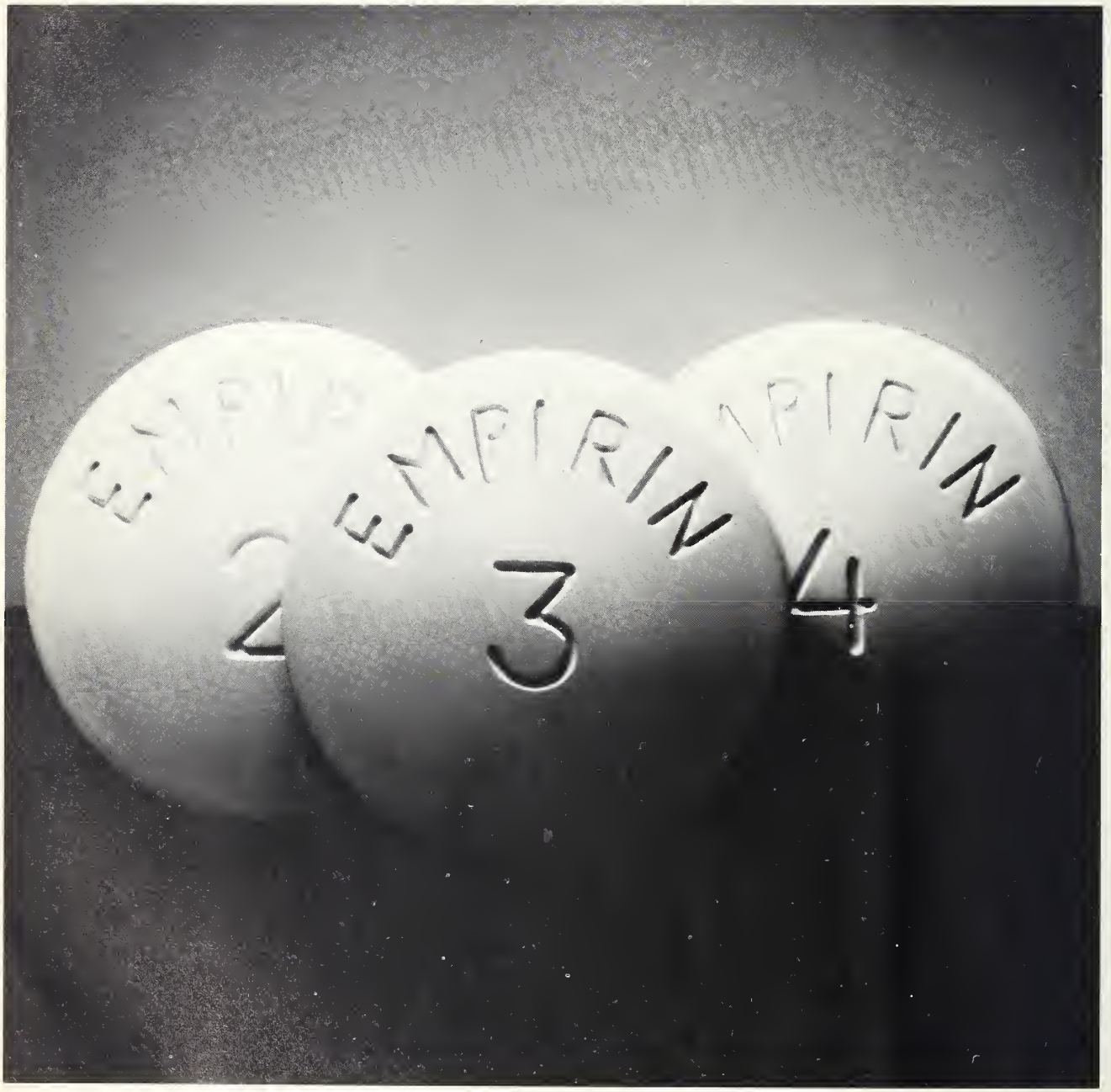
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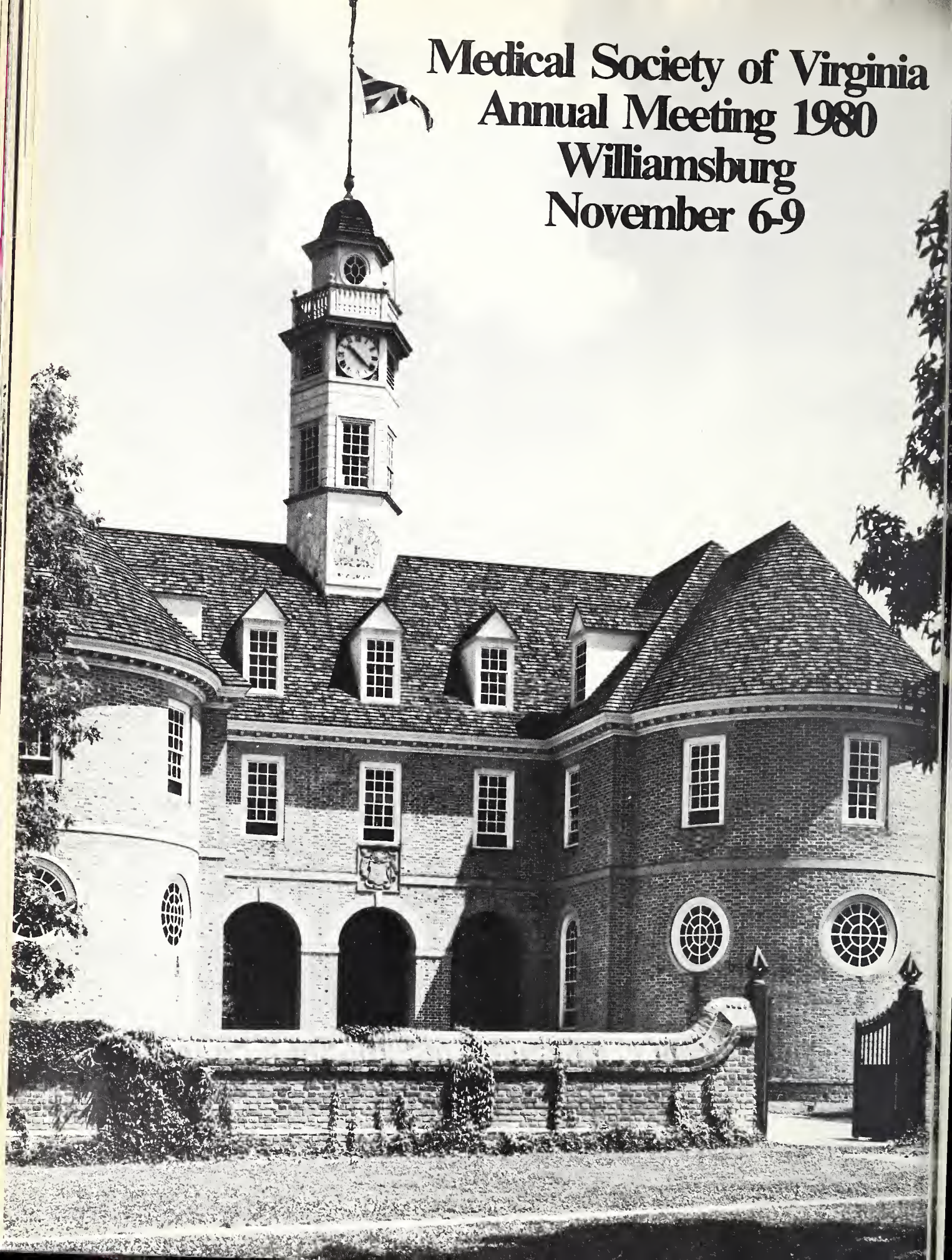
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Medical Society of Virginia
Annual Meeting 1980
Williamsburg
November 6-9



The Medical Society of Virginia
PROCEEDINGS

Minutes of Council

A meeting of the Council of The Medical Society of Virginia was held in Richmond at Society headquarters on Saturday, June 28, 1980.

Members Present: Dr. George M. Nipe, Dr. Percy Wootton; Dr. Charles E. Davis, Jr.; Dr. H. C. Alexander, III; Dr. K. K. Wallace, Jr.; Dr. William S. Burton; Dr. Gervas S. Taylor, Jr.; Dr. Charles M. Caravati, Jr.; Dr. Anthony J. Munoz; Dr. Glenn B. Updike, Jr.; Dr. William W. S. Butler, III; Dr. Robert C. Green, Jr.; Dr. Harry C. Kuykendall; and Dr. C. Barrie Cook.

Others Present: Dr. Harold L. Williams, 2nd Vice President; Dr. James P. Harnsberger, 3rd Vice Presiden; Dr. James B. Kenley, Commissioner, State Department of Health; Dr. William H. Sipe, Dr. Frederick K. McCune, Dr. James A Shield, Jr., Dr. John M. Stirewalt, Dr. George E. Broman, Dr. Nicholas G. Colletti and Dr. Gerald J. Fisher, Vice-Councilors; Dr. John A. Martin and Dr. Michael A. Puzak, AMA Delegates; Dr. William J. Hagood, Jr., Dr. Arthur A. Kirk, Dr. W. Leonard Weyl, and Dr. Raymond S. Brown, Alternate AMA Delegates; Dr. William S. Hotchkiss, Member Board of Trustees of AMA; Dr. Carol Shapiro, representing the Prince William County Medical Society; Mrs. Charles G. Smith, President, The Medical Society of Virginia Auxiliary; Dr. Paul Mazmanian, Medical College of Virginia CME; Vaughan Hall, UVA Student Medical Society; Sam Barton, Jay Broadhurst and David Goldsticker, MCV Student Medical Society; Ms. Kimberly Fauss, representing Mr. Allen Goolsby, Attorney for the Society; Mr. Edward S. DeBolt, Society Consultant; and Mr. Doug Douglas, VaMPAC.

The meeting was called to order by the President and an invocation was offered by Dr. Davis.

Medical Data Collection

Dr. Robert Morton, Chairman of the Society's PSRO Liaison Committee, informed Council that the confidentiality factor continues to be a major concern with reference to data collection. He stressed the importance of establishing a separate organization for the purpose of collecting data. The organization would basically be a consortium of Virginia and West Virginia PSROs and would be physician controlled. Its board would consist of representatives from The Medical Society of Virginia, Virginia Hospital Association and Bureau of Vital Statistics, etc. Data collected by such an organization would undoubtedly be more valid and meaningful, particularly since physicians have for some time been active in quality control programs.

Dr. Morton stated that the PSRO Liaison Committee was anxious to have Council's endorsement of the proposed new data collecting organization and also the need of physician control of any data collection effort. He pointed out that such data would include information on admissions, discharges and diagnoses. There would be no identification of individual physicians and patients.

A motion by Dr. Kuykendall to endorse the recommendations of the PSRO Liaison Committee was seconded. It was agreed, however, to amend the motion by authorizing the Committee to establish the proposed organization and data collecting mechanism with the understanding that implementation would be delayed until such time as a need becomes evident. The motion carried with one dissenting vote.

Joint Commission on Accreditation of Hospitals

The Arlington County Medical Society has re-

quested that Council give serious consideration to an Arkansas Medical Society resolution requesting AMA to investigate the Joint Commission on Accreditation of Hospitals. The resolution charges that JCAH is "detail-oriented to an extreme", is inflexible on standards and seemingly insensitive to appeals. It wishes AMA to determine whether JCAH is fulfilling its mission and whether it should continue to receive the support of organized medicine.

Dr. Hotchkiss explained the makeup of JCAH and pointed out that it includes many of the most capable and dedicated physicians in the nation. It was brought out that any breakdown that may exist is apparently at the examiner level.

Dr. Munoz moved that Virginia's AMA delegation be advised that Council supports the concept of the Arkansas Medical Society resolution. The motion was seconded and carried.

State-Local Hospitalization Program

The Society has, for the last 35 years, urged its members to make no charge for services provided indigent patients under the State-Local Hospitalization Program. Although the Society's files contain references to such action, the staff has been unable to locate a specific statement which can be attributed to either Council or the House of Delegates. Since such action was initially taken many years ago, Council has been requested to review the matter of physician participation in the SLH Program.

There followed considerable discussion during which Dr. Hagood and Dr. Kenley provided information about the program and how it works. It was pointed out that it is administered by the Department of Welfare and that no federal funds are involved. The thought was expressed that since there seemed to be some implications connected with the program, any definitive action should be delayed until the Society attorney has an opportunity to review the program and offer his opinions. It is important that any action taken by the Society not conflict in any way with FTC rules and regulations. It was agreed that the matter will be included on the next Council agenda.

1981 Annual Meeting

Dr. Nipe reported that a meeting had been held in Norfolk with Omni representatives and that no release has as yet been obtained from the 1981 Annual Meeting dates. He stated that the Society is not giving up its efforts to meet elsewhere and stressed once again the fact that new demands and needs have made it advisable to seek those facilities which seem to lend themselves more effectively to annual meeting requirements. Hopefully the matter can be resolved by the time Council meets in September.

Dr. Nipe then offered a proposed new format for future annual meetings. The format would make it possible to more than double the number of Category I hours and, at the same time, accommodate many of the specialty groups which are anxious to participate in the scientific program. The new format would also provide more time for reference committee hearings and the preparation and distribution of committee reports. Dr. Nipe pointed out that all of this could be accomplished by adding one day to the overall meeting. The first session of the House would be held on Wednesday evening, enabling most of the delegates to drive in during the afternoon and early evening hours.

Everyone agreed that the new format would solve many problems and a motion by Dr. Cook to implement it in 1981, or as soon as possible thereafter, was adopted.

Woman's Auxiliary

Mrs. Smith reported that the Auxiliary has been unbelievably busy during the first six months of 1980. An Auxiliary is being organized by the Augusta County Medical Society and the situation looks encouraging where the Albemarle and Tri-County Societies are concerned. Mrs. Smith reported that the AMA-ERF effort continues to go well and that checks have recently been presented to the Eastern Virginia Medical School and University of Virginia School of Medicine. Contributions have been made through the Auxiliary's philanthropic program to the Crippled Children's Hospital, Sheltering Arms, and the Virginia Council on Health and Medical Care.

Mrs. Smith advised Council that the Auxiliary is sorely in need of additional funds for the upcoming Annual Meeting. The amount of $1,000 is needed this year and Mrs. Smith expressed the hope that these funds would be authorized.

Dr. Burton moved that a special appropriation of $1,000 be authorized for the Auxiliary's Annual Meeting in Williamsburg—this sum to include $250 contributed earlier. The motion was seconded and adopted.

Council also learned that Mrs. William Reardon has been nominated for the office of Eastern Regional Vice President of the AMA Auxiliary.

Vanguard

Dr. Kuykendall reported that his committee believed that committee members should be appointed for three years rather than two. In order to achieve this recommended continuity, an amendment to the

bylaws would be required. Proposed amendments to Lines 4 & 5 of Section 13 were offered by Dr. Kuykendall, along with a motion that they be referred to the Bylaws Committee for necessary follow through. His motion was seconded and carried.

Dr. Kuykendall went on to report that Vanguard had been very busy. Appropriateness Review and the Comprehensive State Health Plan are two matters requiring considerable study. The first phase of the pilot program has gone well in Northern Virginia and some interesting facts have already come to light. One of the most interesting is the fact that although the individual physician continues to be held in esteem by the public, he continues to be regarded by some as basically a businessman. The study is proceeding under the direction of the consultants.

A question was raised concerning the infrequent publication of the Vanguard Newsletter and whether better and more frequent communication between Vanguard and the membership is desirable. It was agreed that the impact factor must be taken into consideration.

Dr. Cook expressed the hope that more frequent communication could and would be developed and offered VIRGINIA MEDICAL as a definite possibility. His motion to this effect was seconded and carried.

Continuing Medical Education Survey

A survey having to do with continuing medical education in Virginia has been proposed by the Committee on Education. Dr. Nelson stated that the objectives are to determine the CME needs of all Virginia physicians, to provide a data for future CME planning, encourage Society membership, and provide evidence that the Society is indeed doing everything possible to assist Virginia physicians in meeting their CME needs. The total cost of the survey will be approximately $8,000 and a 30–40% response can be anticipated.

It was pointed out that a comprehensive study survey of this kind has been needed for a long time and should prove invaluable. A motion by Dr. Taylor endorsing the survey and authorizing an appropriation of $8,000 to cover the cost was seconded and adopted.

CME Credits

Dr. Broman, Chairman of the Membership Committee, reported that 126 members in the A-G category have not yet reported compliance with CME requirements for membership. He stated that the Membership Committee had given much time and consideration to the problem and wished to offer several recommendations. The first would permit the chairman to grant an extension of the reporting deadline for those who could show proper justification. The second would require full committee action before a specific exemption could be granted to any member requesting such action. The third would provide that all those in a delinquent status be contacted by registered or certified mail prior to August 1 to try to resolve their status before November 1.

Dr. Burton moved that no member be dropped from membership before the overall CME program could be reviewed. The motion was seconded.

After considerable discussion, during which a number of suggestions were offered, Dr. Davis introduced a substitute motion calling for approval of the recommendations presented by the Membership Committee. His motion was seconded and carried.

Dr. Broman then discussed the importance of amending the bylaws in such manner as to prevent CME requirements from being bypassed when former members reapply for membership. It was his committee's recommendation that those dropped from membership for failure to comply be required to fulfill their CME obligations for the preceding year should they ever reapply for membership.

It was also recommended that the bylaws be amended in such manner as to provide for student-active and graduate-active membership categories—members in each group paying reduced dues and entitled to serve on committees and in the House of Delegates should they be elected.

A motion by Dr. Munoz to refer the proposed amendments to the Bylaws Committee for consideration and such action as might be required was seconded and adopted.

VaMPAC

Dr. Weyl reported that VaMPAC has 100 in its special PAC 250 Club. He also reported that VaMPAC now has more sustaining members than at any time in its history. The future looks very bright and VaMPAC's administrative structure has been redesigned to more effectively accomplish its objectives for the next several years.

There being no further business, the meeting was adjourned.

Robert I. Howard, Secretary

APPROVED:
George M. Nipe, M.D., President



Zebra Swallowtail

JAY S. GOLDBERG, MD

VIRGINIA MEDICAL

EDITORIAL

"She Bridges the Communications Gap"

EFFICIENT, resourceful and dedicated medical assistants lengthen and strengthen the healing arm of the physician, making his job easier. Medical assistants are the first and last health care professionals to see the patient in the office and are in a unique position to reflect the philosophy of the office and set the tone for everything that happens there. Courtesy, consideration and an expressed interest in the patient's problems are all a part of the good medical assistant's attributes. Her impact on a physician's success and efficiency may be even greater than he realizes, for she bridges what some have called the greatest communications gap in our society, that between the physician and his patients.

Writing in the St. Paul Fire and Marine Insurance Company's *Malpractice Digest,* Neil Bernstein points out that by the time a physician walks into the examination room, the patient already has had the time and experience to form a pre-judgment of the care he will receive. This pre-judgement is related to such non-medical factors as the appearance and efficiency of the office and the level of knowledge and personal understanding displayed by staff members, and the patient's later decision to charge a physician with malpractice may be related to negative feelings about the total office visit experience. Courteous and pleasant medical assistants can prevent these negative feelings. Indeed, a medical assistant needs to know medical law and ethics, for she must be aware of her role in claims prevention. Her direct and indirect influences on the physician-patient relationship can either enhance it or strain it and may have a bearing on whether or not a patient files a suit against a physician.

The American Association of Medical Assistants (AAMA) is the first and only national professional organization exclusively for medical assistants. Its members are concerned not only with earning a living but also with serving patients, and they are committed to self-development and lifelong learning.

The basic objectives of the members of the Association, founded in 1956, are 1) to give honest, loyal and more efficient service to the profession and the public which they serve; 2) to strive at all times to cooperate with the medical profession in improving public relations; and 3) to provide educational services which will increase knowledge and professionalism and stimulate fellowship and cooperation. Workshops, seminars and continuing education classes are available to improve the ability of medical assistants in areas where their proficiency can be maintained or improved with additional work and education. The three educational arms of the AAMA—the Continuing Education, Certifying, and Curriculum Review Boards—work constantly to help members increase their competence and the quality and scope of their services.

The author is chairman of the Physicians' Advisory Board to the Virginia State Society of the American Association of Medical Assistants. Address correspondence to him at 7702 Parham Road, Richmond VA 23229.

When physicians recognize and accept the facts that the American Association of Medical Assistants is a voluntary, non-profit organization dedicated to the education and self-improvement of medical assistants and that *its bylaws state that it will never become a union or a collective bargaining agency,* they frequently not only encourage their medical assistants to join this professional organization but also offer to pay the dues. From its inception in 1956, the Association has received support and encouragement from the American Medical Association, and almost 2,000 physicians are now serving as advisors on the local, state and national levels.

A Virginian, Dorothy Sellars of Richmond, who holds the association-designated status of Certified Medical Assistant, Administrative, is national president-elect of the Association and will be installed as president in Kansas City during the national convention in October, and there are now 500 members and 20 chapters of the Association in Virginia: Allegheny-Bath in Clifton Forge; Central Virginia in Lynchburg; Charlottesville-Albemarle; Danville-Pittsylvania County; Fairfax; Hampton Roads; Northern Virginia in Winchester; Old Dominion in Richmond; Peninsula in Hampton; Petersburg; Portsmouth; Prince William County; Roanoke Valley; Rockingham County in Harrisonburg; Sheffield in Farmville; Southside in Halifax County; Tidewater in Norfolk; Tri-County in Suffolk; Virginia Beach; and Waynesboro.

The 1980 Virginia state convention, hosted by the Tidewater chapter, was held at the Lake Wright Motel in May. Seminar topics dealt with plastic surgery, including breast reconstruction, genito-urinary surgery and flap reconstruction, microscopic hand surgery, cleft lip and cleft palate surgery, and also trauma and cancer of the maxillofacial area. The annual educational seminar will be hosted by the Petersburg chapter on November 15 and 16, 1980.

Ask your medical assistant if she is a member of the American Association of Medical Assistants. If she is not, urge her to join. You can pay her dues and help her attend the annual educational seminars and state convention as a tax-deductible expense for your office. It is a good investment. Physician encouragement will help this fine organization become the important asset to medicine it can and should be, by aiding medical assistants to work together to increase their efficiency, increase their knowledge, and keep pace with the changes both in medicine and their own profession.

RALPH E. HAGAN, MD

Crowds Threaten the "Good Life"

IN the year Galileo was born, Michaelangelo died and the world's scepter of influence passed from art to science. In 1642, the year in which Galileo died, Newton was born. These three men—Michaelangelo, Galileo and Newton—represent 250 years of human greatness. It appeared that Galileo was the "John the Baptist" for science, heralding the coming of that great galaxy of scientists, Lavoisier, Faraday and Darwin. These were the pioneers who broke with the established order and charged forth into a new world, undreamed of and uncharted. They were to achieve unprecedented success in opening new areas of discovery in the physical and biological sciences. Among these pioneers appear the names of Claude Bernard, Louis Pasteur, Paul Ehrlich, John J. Abel, F. G. Banting and Alexander Fleming. These men and those who followed in their footsteps achieved success in conquering disease and extending the life span.

The record speaks for itself. By the application of scientific discoveries, and the ancillary sciences that had their origin in these discoveries, life expectancy has increased from 30 years at the time of the Roman Empire, to about 46 years when McKinley sat in the White House, to about 72 years in the 1970 decade.

The number of people living on this planet in the mid-70s was 4.04 billion. The population will be doubled on the year 2013. There is a frightening daily increase of 211,000 persons.

Ecology is concerned with the relationship between the earth and the organisms living upon it. This cooperation has endured for millions of years and balance between those living on this planet is constantly in a state of flux. Man has emerged from competition with other living forms as the ecological dominant. Victory has been achieved largely through application of his technological advances, but to accomplish it, man has modified greatly his natural biotic communities. With the steam shovel and dynamite he has materially changed the face of the earth. The air and rivers have been polluted. Soil has been washed into the sea. In many areas the natural eco-

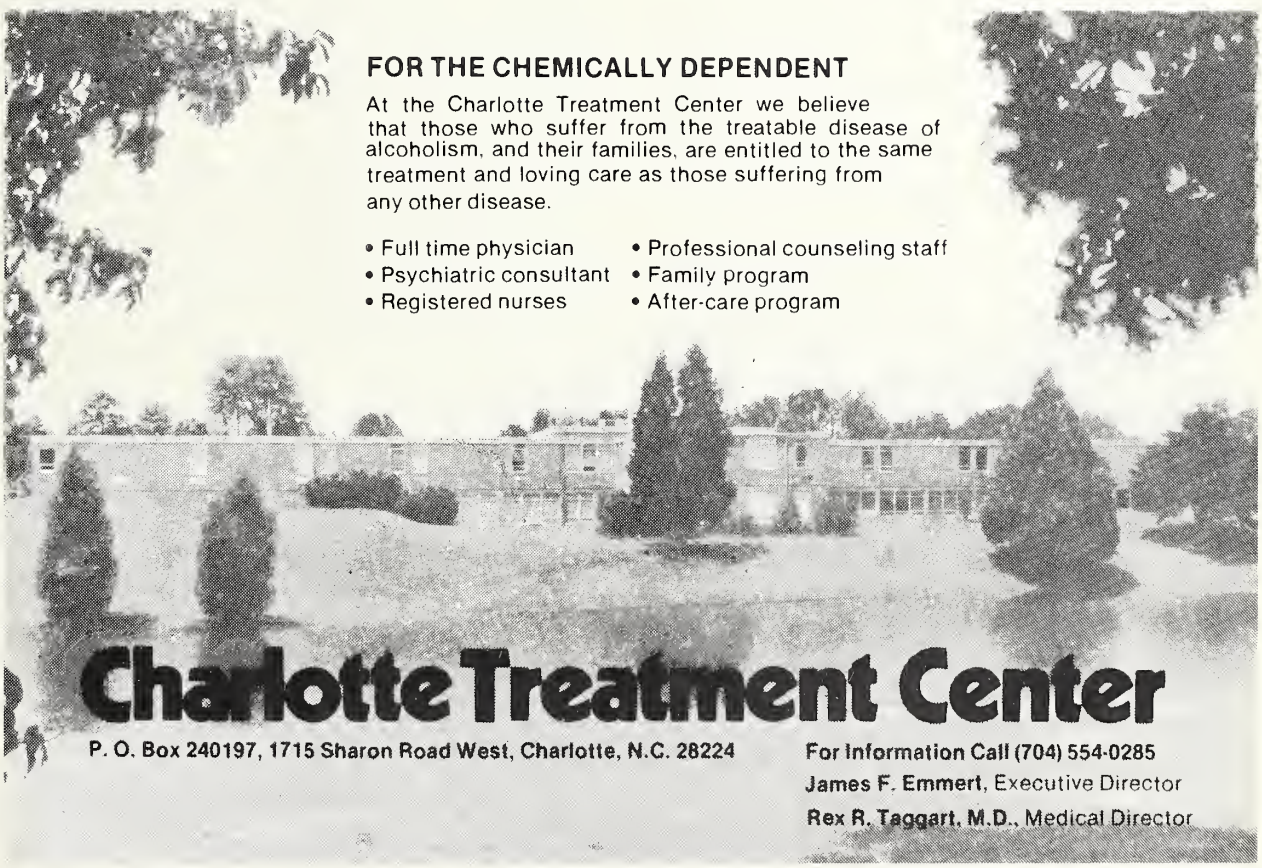
logical environment can never again be recovered.

Homo sapiens is a competitive and not a cooperative individual. This has been demonstrated frequently when man is confronted with one of the fundamental laws of human behavior. This is Gresham's Law, which was applied first to money. Fiat money will drive out of the market, and exchange places with, valid currency. The same principle has wide application. It applies to correct speech, to literature and to the people in a community. It appears that greed, ambition, crudeness and immorality will drive from a community folk with high moral standards who seek truth, beauty, goodness and love.

It is most unfortunate that mass man reproduces in great numbers. He crowds the cities, crowds the hospitals and exhausts the money available for the sick and poor. This problem can most readily be resolved by curtailing the births in the community. T. R. Malthus (1766-1834) in his essay on population stated, "Population invariably increases when the means of subsistence increases, unless prevented by powerful and obvious checks." Malthus was concerned about the population exceeding the food supply. Although this was a valid concern, the food supply has increased; however, about one-half the world's population goes to bed hungry each night.

Medical science and its ancillary sciences have contributed spectacularly to longevity and the good life for the inhabitants of this planet. But science must recognize its limitations. If man continues to spawn prolifically, all of the good life will slowly diminish and will finally disappear.

JOHN C. KRANTZ, JR., PHD
Gibson Island MD 21056



VIRGINIA MEDICAL OBITUARY

W. C. Langdon, MD

Dr. William Cleveland Langdon, 40 years old, died at his Richmond home on June 24 after a long illness. He was an obstetrician and gynecologist.

Dr. Langdon received his undergraduate and medical degrees from the University of North Carolina and trained at the Medical College of Virginia. Before entering private practice in Richmond he served for four years in the Air Force, attaining the rank of major. He came to membership in The Medical Society of Virginia through the Richmond Academy of Medicine and belonged also to the American College of Obstetrics and Gynecology.

Thomas Beath, MD

Dr. Thomas Beath, Richmond orthopedic surgeon, died June 30 in a Richmond hospital. He was 74 years old. Educated in Canada, at Toronto University, Dr. Beath earned a medical degree from its Faculty of Medicine in 1930 and then studied in England. He became master of surgery at Queens University in Kingston, Canada, and later joined the faculty of the Medical College of Virginia. Dr. Beath served in the Canadian Army and from that experience coauthored a work titled, "Beath-Harris Canadian Army Foot Surgery"; he was a consultant also to the US Army.

Dr. Beath had belonged to The Medical Society of Virginia for 31 years. He was a member also of the Richmond Academy of Medicine, American and Southern Medical Associations, American Academy of Orthopedic Surgeons, Canadian Orthopedic Association, Richmond Orthopedic Club and American Orthopedic Foot Society. He was a fellow of the Royal Colleges of Surgeons of both London and Canada.

G.A. Zimmerman, MD

Dr. Gordon A. Zimmerman, 56 years old, died of cancer June 22 at his home in Falls Church. He had been a family practitioner in the Falls Church area for nearly 25 years until he retired two years ago and had been chief of family practice at the Arlington Hospital

Born of Swiss parents in British Columbia, Dr. Zimmerman grew up in Arlington and was graduated from Georgetown University and its School of Medicine, then trained at Providence Hospital in the District of Columbia. During World War II, as a pilot with the Army Air Forces, he was shot down in Europe and held in a German prison camp for a year.

Dr. Zimmerman came to membership in The Medical Society of Virginia through the Fairfax County Medical Society and belonged also to the American Medical Association.

Otto Kastenbaum, MD

Dr. Otto Kastenbaum, general practitioner in Norfolk for more than 50 years, died June 20 in a Norfolk hospital. He was 77 years old.

Born in Vienna, Austria, Dr. Kastenbaum was educated in that country. He was a past president of the Tidewater Academy of Family Practice and had been chief medical consultant for the Tidewater Regional Office of the Disability Determination Service. He had been 38 years a member of The Medical Society of Virginia and belonged also to the American Medical Association and the Virginia and American Academies of Family Physicians.

Madeleine E. Morcy, MD

Dr. Madeleine Elizabeth Morcy, retired regional medical director for the Department of Health, Education and Welfare, died June 21 at her home in Charlottesville. She was 70 years old.

Dr. Morcy was born in Galeton, Pennsylvania, and took a BA degree at Syracuse University. Her MD degree was earned at New York Medical College, and she was a graduate also of the Harvard School of Public Health. She came to membership in The Medical Society of Virginia through the Albemarle County Medical Society.

Kenneth J. Cherry, MD

Dr. Kenneth Jerome Cherry, Richmond surgeon, died July 10 at his home. He was 64.

A graduate of the University of Richmond and the Medical College of Virginia, Dr. Cherry had a private practice in general surgery and gynecology. He had been chief of surgery and chief of staff at Retreat Hospital, Richmond, and an assistant professor of

clinical surgery at the Medical College of Virginia.

Dr. Cherry had been 41 years a member of The Medical Society of Virginia and belonged also to the Richmond Academy of Medicine, American Medical Association, Southeastern Surgical Congress, Virginia Surgical Society, Richmond Surgical and Gynecological Society and the Caduceus Club.

Robert V. Terrell 1910-1980

By Emmett C. Mathews, MD, Bruce Stewart, MD, and G. Watson James, MD

On February 5, 1980, the medical community and the citizens of Richmond lost one of its most distinguished surgeons with the passing of Dr. Robert Vaughan Terrell, better known to all of us as Bob.

He was born April 26, 1910, in Buckner, Louisa County, Virginia. He graduated from William and Mary College and received his MD degree from the Medical College of Virginia in 1934. After interning at Stuart Circle Hospital in Richmond, he had surgical training at the Mayo Clinic. Bob was associate professor of Clinical Surgery at the Medical College of Virginia.

At the outbreak of World War II, Bob volunteered for the Army Medical Corps and served as chief of proctology and septic surgery at Kennedy General Hospital in Memphis, Tennessee, and later in the 80th General Hospital at Manila in the Philippines. At the termination of the war he returned to Richmond and practiced proctology until illness forced his retirement in 1979. He was associated with Clarence C. Chewning, MD, from 1948 until Dr. Chewning's death in 1978. Dr. Bruce Stewart was associated wtih Bob at the time of his retirement.

Bob was a member of the Richmond Academy of Medicine, a former president and former chairman of the board of trustees. He served as parlimentarian for many years. Frequently he was asked to give the invocation at Academy meetings. His last invocation was:

"O, Heavenly Father:

We thank Thee for food
And we remember the hungry

We thank Thee for health.
And remember the sick.

We thank Thee for friends
And remember the enslaved

May these remembrances stir
us to service, that Thy gifts
to us may be used for others.

Amen.

He was a member and former president of the Piedmont Society of Colon and Rectal Surgeons, a member of The Medical Society of Virginia, a fellow and former vice president of the American Society of Colon and Rectal Surgery, former president of the Richmond Surgical and Gynecologic Society and former vice president of the American Proctologic Society. Bob had been a member of the Richmond Rotary Club since 1948 and had eight years of perfect attendance. He was a member and former president of the International Torch Club. A horticulturist in his spare time, Dr. Terrell planted many of the shrubs that border the grounds of Retreat Hospital, and a garden and park adjacent to the hospital's new wing and parking deck will be named the "Robert V. Terrell Garden" in his honor.

His garden plot in Windsor Farms was a delight to him, and he spent happy hours in every season tilling, planting, or reaping the bounty which he graciously passed to others. Growing boxwood between the vegetable rows was a specialty. As he pruned, he planted the clippings, they rooted, and as the years passed all the English box in his yard were his very own. His vineyard produced fine healthy grapes and from them he made good heady wine, a joyous gift at Christmas. His generosity was unlimited.

Not many knew that he was an excellent punster and knew endless limericks which he produced at the proper moment. Almost Puckish, he delighted "going you one better", with a raconteur's delight.

Bob's good heart and his love of life led to open, unabashed emotion that often flowed from him in a flood of warm expression for life, love, and all the living things. He was a member of the First Presbyterian Church where he served as a deacon, ruling elder and Sunday School teacher.

Bob is survived by his wife, Mrs. Mildred MacDonald Middleton Terrell, three daughters, two sisters, and three grandchildren.

WHO'S WHO IN VIRGINIA MEDICINE

Dr. Carroll H. Lippard, *Lynchburg* obstetrician and gynecologist, was elected to the presidency of the Virginia State Board of Medicine at a recent meeting. He succeeds **Dr. Clarence B. Trower,** *Norfolk,* who has retired from the practice of surgery for reasons of health. Dr. Lippard has been five years a Board member and was previously its vice president. For its new vice president, the Board selected **Dr. Edwin L. Kendig, Jr.,** *Richmond.*

Dr. M. Pinson Neal, Jr., *Richmond,* was the 23rd recipient of the Citation of Merit in Medicine presented annually by the University of Missouri-Columbia Alumni Association. He received a ceremonial plaque signifying the award at ceremonies in Kansas City, Missouri, early this year. Dr. Neal was born in Columbia, Missouri, home of the University of Missouri, he earned both a BA degree and a BS in medicine. Dr. Neal has had a distinguished career in radiology at the Medical College of Virginia, where he has been chairman of the Division of Diagnostic Radiology, assistant dean, and president of the board of directors of the MCV Faculty Club.

Dr. Neal's father, a graduate of the Medical College of Virginia, was a professor of pathology at the University of Missouri School of Medicine.

Named outstanding young man of the year by the Suffolk Junior Chamber of Commerce was **Dr. W. Allen Hogge** of *Suffolk.* The award honored Dr. Hogge's major role in the founding of the Edmarc Hospice for Children in Suffolk.

New president of the medical staff of Loudoun Memorial Hospital is **Dr. O. Riley Boone,** *Leesburg.*

Relected chairman of the Montgomery County Hospital board of trustees at a recent meeting was **Dr. Michael E. Slayton,** *Blacksburg.* Dr. Slayton is president of the Southwest Virginia Medical Society.

Dr. Charles F. Gaylord, *Staunton,* recently was presented with the Book of Golden Deeds award by the Exchange Club of Staunton. The award is given annually to honor outstanding service for which ordinary recognition is not extended.

These Medical Society of Virginia members have been elected to fellowship in the American College of Physicians:

Dr. Bolling J. Feild, *Petersburg;* **Dr. Stephen L. Green,** *Hampton;* **Dr. Edwin J. Harvie,** *Danville;* **Dr. John W. Knarr,** *Pulaski;* **Dr. James A. L. Mathers, Jr.,** *Richmond,* and **Dr. Robert A. Reid,** *Charlottesville.*

To honor the 80th birthday of **Dr. F. Clyde Bedsaul** and his long service to *Floyd County,* the Floyd Town Council proclaimed June 1 "Dr. F. Clyde Bedsaul Day," and friends and patients trooped into the Floyd United Methodist Church to pay their respects at a reception. Dr. Bedsaul is "slowing down a little", as he puts it, but tries to keep regular office hours each day, and he continues to attend patients in the county jail and a correctional field unit.

In recognition of his 50 years in the practice of psychiatry and neurology, a testimonial dinner is to salute **Dr. Benedict Nagler,** *Lynchburg,* on October 4 in Lynchburg. Dr. Nagler, 80 years old, was for many years superintendent of the Lynchburg Training School and Hospital. Sparkplug of the dinner for him is **Dr. Robert D. Gardner,** *Lynchburg,* who is accepting reservations from Dr. Nagler's friends all over Virginia.

To **Dr. Richard H. Fisher,** *Salem,* went the Salem Rotary Club's Outstanding Citizen Award for 1980. An orthopedic surgeon in private practice at the Lewis-Gale Clinic in Salem, Dr. Fisher has volunteered his services as physician for sand lot, high school and college teams in Salem, and has been a leader in im proving emergency medical services in the Salem area. He is a founding member and has served as president of the Lewis-Gale Medical Foundation, which has awarded $118,000 in scholarships to students heading for medical careers.

The National Board of Medical Examiners has appointed **Dr. Leo J. Dunn,** chairman of the Department of Obstetrics and Gynecology at the Medical College of Virginia in *Richmond,* to serve as an examiner on the board's Test Committee.

At the 61st annual session of the American College of Physicians early this summer in New Orleans, **Dr. Edward W. Hook,** *Charlottesville,* was elected a regent of the College.

As a memorial to the late **Dr. Earle B. Morgan,** *Fincastle,* the Botetourt Junior Chamber of Commerce has established a Memorial Scholarship Award in his name "so that residents of Botetourt County might always remember Dr. Morgan for the good and unselfish deeds he performed as a citizen, doctor of medicine, and educator of goodwill throughout the county." The schol-

arship, to be financed by the Chamber's money-raising activities, will be awarded each year to two graduating seniors, one from each of the two high schools in the area.

New president of the Virginia Chapter, American College of Surgeons, is **Dr. William L. Sibley, III,** *Salem,* who was elected at the group's recent annual meeting in Richmond. **Dr. David P. Minichan, Jr.,** *Roanoke,* was elected the chapter's secretary.

For achievement in research, **Dr. Jay Y. Gillenwater,** *Charlottesville,* received the 1980 Russell and Mary Hugh Scott Education Award of the American Urological Association during its annual convention in San Francisco. Dr. Gillenwater is chairman of the Department of Urology at the University of Virginia

After 47 years of medical practice in *Waynesboro,* **Dr. Bliss K. Weems** retired this summer with the intention of paying more attention to his garden, his grazing farm and his seven children. To see the children will take a bit of traveling, for as Dr. Bliss puts it, "they are scattered here, there and yonder". One son, Dr. Wade S. Weems, is a urologist in Ft. Lauderdale, Florida.

His father's specialty was surgery, too, but primarily obstetrics, and he is credited with founding Waynesboro' first hospital. It was a two-bed facility for obstetrical patients in a rented house next to the Episcopal church in Waynesboro. The hospital grew in two subsequent moves to larger locations, until finally it was superseded by the Waynesboro Community Hospital.

Dr. Weems was born and reared in Greene County, Tennessee. It was during his high school years there that he decided to become a doctor, and, after attending Tusculum College, he studied medicine at the University of Virginia, graduating with his MD degree in 1931 and then training at a Newport News hospital.

His medical career in Waynesboro has included the delivery of about 3,000 babies and has given him landmark stature in the community. In 1977, on proclamation of former Gov. Mills Godwin, Waynesboro celebrated "Bliss K. Weems Day".

Four Medical Society of Virginia members were admitted to fellowship in the American College of Radiology at its recent meeting in New Orleans. They are **Dr. Forest G. Harper,** *Staunton;* **Dr. I. Earl Holmes,** *Waynesboro;* **Dr. Eugene R. Jacobs,** *Alexandria;* and **Dr. Charles John Tegtmeyer,** *Earlysville.*

Fellowship in the American Academy of Pediatrics had been conferred on **Dr. Jerome M. Shalf,** *Ashland.*

Dr. Merritt W. Foster, Jr., *Richmond* psychiatrist, was the unanimous choice for the chairmanship of the Virginia Board of Mental Health and Mental Retardation when it met recently in Staunton. Clinical professor of psychiatry at the Medical College of Virginia, Dr. Foster has served on the board since 1977.

Installed as president of the Seaboard Medical Association of Virginia and North Carolina at a recent meeting was **Dr. John A. Cross, Jr.,** *Newport News* surgeon. Elected as vice presidents at the same meeting were **Dr. John H. Furr** and **Dr. Willette L. LeHew,** both of *Norfolk.*

The American College of Cardiology conferred fellowship on 179 doctors recently, and two of them were Medical Society of Virginia members: **Dr. William G. Franklin,** *Arlington,* and **Dr. Kenneth C. Griffith,** *Richmond.*

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VIRGINIA MEDICAL

October 1980, Volume 107, Number 10

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Foundations, Formats, Funds

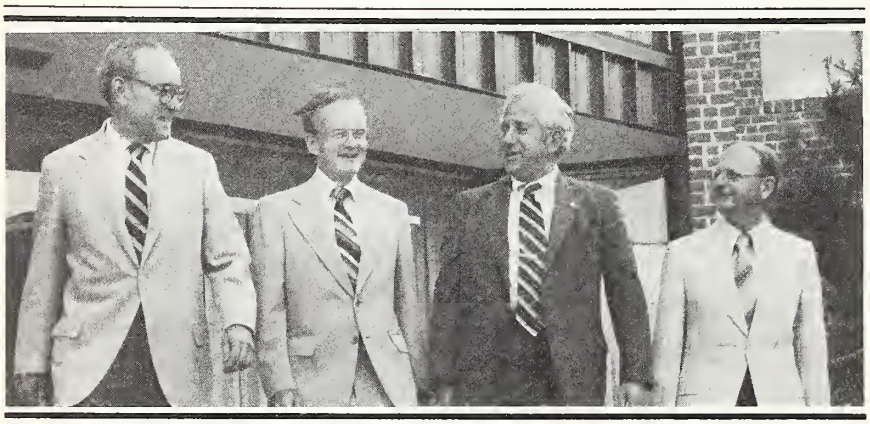
Who runs The Medical Society of Virginia?

Its committees.

In a consensus procedure, members of the working committees lay the foundations for the Society's directions by formulating recommendations for action and presenting them to the House of Delegates.

The House assigns these recommendations for study to another set of committees, the reference committees, where, in open session, the pros and cons are debated and advisory positions taken, consensus again characterizing the process.

Reintroduced into the proceedings of the House, the recommendations given the green light by the reference committees are debated by the delegates and then formally voted upon, the majority opinion effecting either adoption or rejection of the considered measure.



Hospital Advisory Committee members. *See page 692.*

And so the process begun in committee is completed in what might be called the Society's largest committee, the House of Delegates.

The annual reports of 23 of the 34 Medical Society of Virginia working committees are published in this issue. By reading them, MSV members can learn a lot about what their peers are thinking and doing in areas saliently affecting Virginia doctors. Most especially, a review of these reports reveals what action the 25 committees are recommending to the House of Delegates.

Are you one of the doctors whose application for scientific exhibit space at the Annual Meeting was accepted?

If so, consider yourself lucky.

The number of scientific exhibit applications took a great leap this year from the previous high of 24 to an astonishing 36 applications. And since what space there is for such things in the Williamsburg Conference Center must be shared with the technical exhibits and the Auxiliary's boutique, the selections committee's task of adjudicating the applications was a dispiriting one.

Finally, by ursurping five of the technical exhibit booths in the North Ballroom on the lower level and tightly mapping the Auditorium Foyer and part of the North Gallery on the upper level, space was created for 19 of the 36 applications. In choosing those 19, the committee gave preference to exhibits whose topics offered broad medical interest.

Time was when the revenue from the technical exhibits almost entirely paid for the annual meeting.

No more.

Even though the tab per technical booth is now $400, yielding a net

VS BUREAU

revenue after expenses of about $10,000 at the coming meeting in Williamsburg, the total cost of the meeting will be in the neighborhood of $30,000.

But how sweet it is, to have ten thou as income against the outgo. The technical exhibitors deserve a great big thank-you of heavy attendance.

Four Named to State Review Group

Four Medical Society of Virginia members have been appointed to a statewide committee that will investigate the accelerating cost of medical claims under the Workmen's Compensation Act. They are Dr. Gervas S. Taylor, Jr., Norfolk, MSV councilor, who was elected the committee's chairman at its first meeting; Dr. William A. Burslem, Jr., Winchester; Dr. Joseph O. Romness, Arlington; and Dr. Robert P. Singer, Richmond. A physician from the western part of the state is yet to be appointed.

As the State Workmen's Compensation Medical Cost Peer Review Committee, the doctors are joined by four lay persons representing hospitals, insurance agencies, employers, and employees. The appointments were made by the Speaker of Virginia's House of Delegates, A. L. Philpott, in cooperation with the Privileges and Elections Committee of the Virginia Senate.

Dr. Taylor to Top Post

Newly elected chairman of the Virginia State Board of Health is Dr. Clarence W. Taylor, Jr., Shawsville, who has been a member of the board since 1978 and was vice chairman last year. Dr. Taylor succeeds Dr. William R. Hill, Richmond, in the chairmanship. Third physician-member of the board is Dr. W. Leonard Weyl, Arlington. All three are members of The Medical Society of Virginia.

A graduate of the Medical College of Virginia, Dr. Taylor is a past president of the Virginia Academy of General Practice.

Malpractice Rate Increase Goes into Effect

After extended hearings, the Virginia State Corporation Commission has authorized St. Paul Fire & Marine Insurance Company to implement a new rate schedule for medical malpractice insurance effective September 1, 1980.

The new rate schedule will result in an average increase of between 20-25% in the premium for basic coverage ($100,000-$300,000) and a decrease of 12½% in the multiple that is applied to determine the rate for excess coverage. The net effect for a physician in Class 3 will be an annual premium increase of about 15% for $1 million of coverage.

St. Paul has reported that recent experience in both frequency of malpractice claims and the amount per claim has been bad. The adverse trend has occurred not only in Virginia but throughout the nation, and rates are escalating in almost all states.

Moving Soon? He Needs to Know

James L. Moore, the Medical Society of Virginia staff member who copes with the membership rolls (no mean task), asks your help, like this:

Early in December you will receive your statement of 1981 dues.

With that statement will come your membership card.

If you are contemplating a change of address in October or November, please send Mr. Moore notice of that change, will you? So that your membership card will carry your new address.

Parasitic Disease Cases Increase

Reported parasitic diseases are decidedly on the increase in Virginia. The total cases reported in 1979 almost doubled the previous year's figures, and already in August the number of 1980 reports had surpassed the 1979 totals.

The influx of Indo-Chinese "boat people" bears both directly and indirectly on these figures, in the view of Dr. Harry C. Nottebart, Jr., Director of the Bureau of Communicable Diseases. The obvious direct influence is that many of these refugees have brought parasitic diseases with them; indirectly, the known parasitic disease potential of these refugees has put Virginia doctors on the qui vivre, so that they are not only diagnosing these diseases more frequently but are also taking care to report them.

The reported cases in Virginia for 1979 were compiled for VIRGINIA



Program Producers: The five physicians in the photograph above comprise The Medical Society of Virginia's Program Committee. From left to right, they are Dr. Claude McClure, Danville; Dr. Donald W. Drew, Norfolk; Dr. Darrell K. Gilliam, Richmond; Dr. W. Kenneth Blaylock, Richmond; and Dr. Richard W. Lindsay, Charlottesville. Theirs was the task of formulating the scientific sessions for the Annual Meeting next month in Williamsburg, and you will find this "annual report" on pages 4-6 of the program that is bound into the centerfold of this issue. An innovative agenda, it culminates in a special section during which six residents from Virginia's three medical schools will present their original research papers.

MEDICAL by Dr. Nottebart and are reproduced below. The excerpted "probably Indo-Chinese" figures were conjectured on the basis of names.

Reported Parasitic Diseases in Virginia, 1979	Number	Probably Indo-Chinese
Amebiasis	49	9
Ascaris lumbricoides	318	270
Enterobius vermicularis	80	5
Giardia lamblia	210	76
Hookworm	100	100
Strongyloides	121	41
Trichuris trichuria	118	106
Taenia saginata	2	
Taenia solium	2	
Fasciola hepatica	1	
Schistosomiasis	2	
Hymenolepis nana	7	
Hymenolepis diminuta	3	
Clonorchis sinensis	34	
Iodamoeba buetschlii	5	
Trichostrongylus	2	

Bestseller Stars Virginia Doctors

The Northern Virginia Directory of Physicians, first of its kind in the country, has behaved like a bestseller.

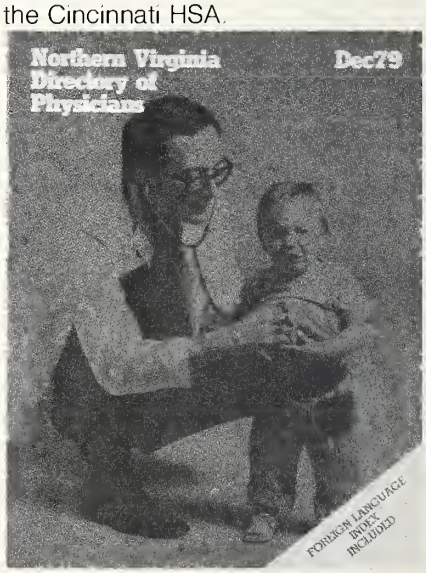
The regional Health Systems Agency that got the 441-page book together first gave the printer an order for 5,000 copies. They were gone in a matter of days, so an additional print order of 7,000 copies was entered. It was "sold out" before it came off the presses. The agency still has 12,000 unfilled requests for the book but says it hasn't the money to print any more and doesn't want to change its policy of distributing the copies free.

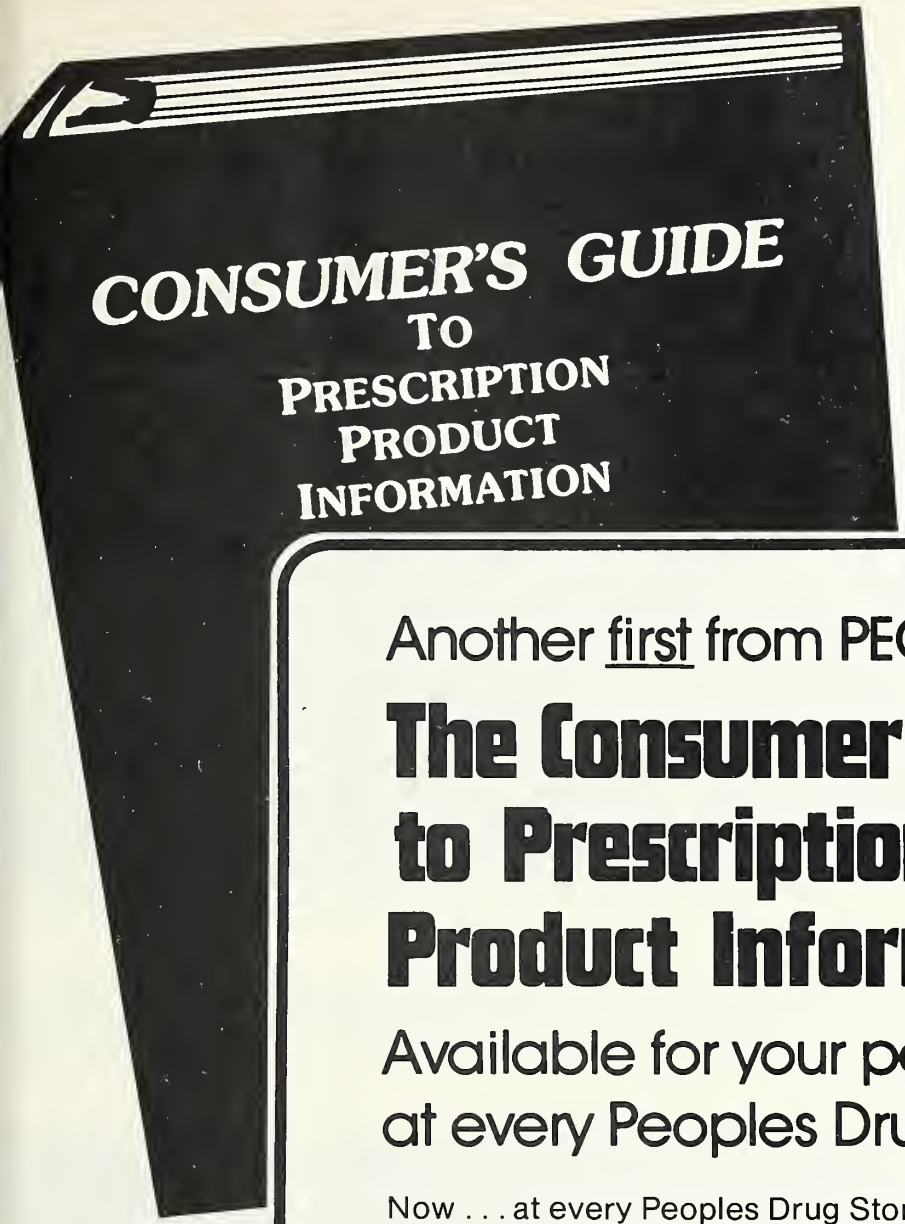
All Northern Virginia libraries and social service offices received the book, and community organizations were given top priority in the second printing. Libraries report the book is popular.

The book lists fees, education and specialties of 635 Northern Virginia physicians, plus the answers to such questions as what foreign languages are spoken in the doctor's office and how close the office is to public transportation. But the entries most sought after by the public, a Northern Virginia HSA spokesman told VIRGINIA MEDICAL, answer these questions: Does the doctor make house calls? Does he accept Medicaid patients? Does he have special interest, experience or expertise in dealing with the handicapped and the elderly?

Local medical societies opposed the directory when it was first proposed, but agreed to cooperate when a 1976 court decision overturned a Virginia law prohibiting physicians from publishing, or having published, any information about their fees.

The Cincinnati Academy of Medicine has published a directory to its 1400 members, "Consumers Guide to Medical Care", and reports that 15,000 requests for it have been filled to date. It was entirely financed by the Ohio Health Department, Merrell National Laboratories, and the Cincinnati HSA.





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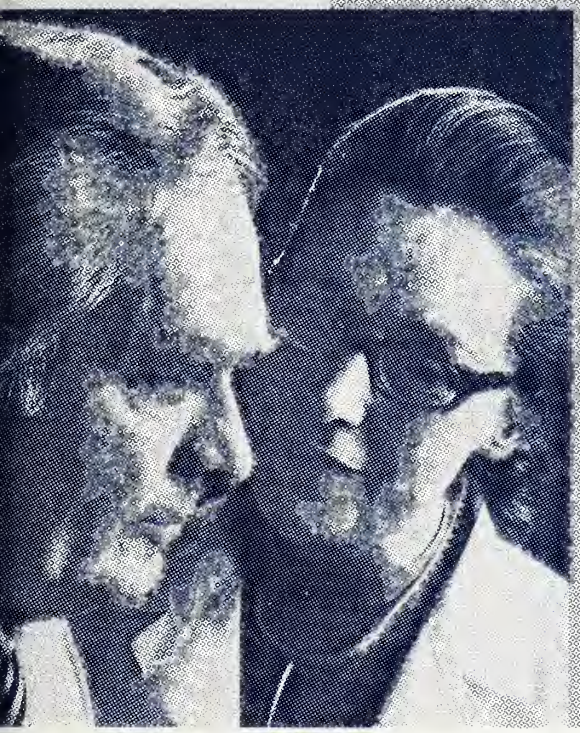
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Precautions: In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (*e.g.*, excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

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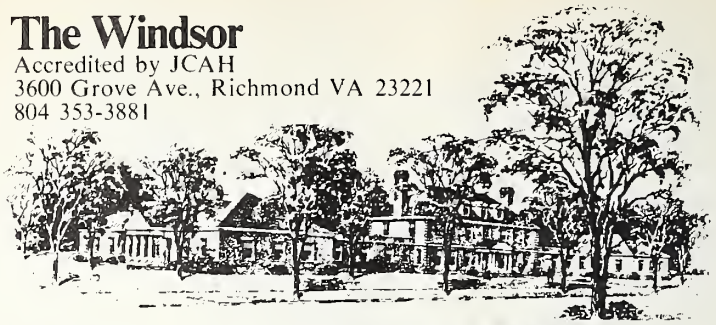
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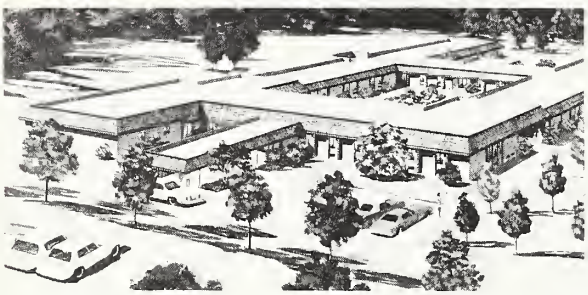
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Mr. Cliff Christiansen, Administrator
Dr. Robert L. Green, Jr., Medical Director
3019 Falstaff Road
Raleigh, North Carolina 27610
(919) 755-1840

NEW MEMBERS

Albemarle County Medical Society

Roberto A. Auffant, MD, Anesthesiology, University of Virginia Medical Center, Box 238, Charlottesville VA 22908

Ray Wayne Gandee, MD, Diagnostic Radiology, University of Virginia Hospital, Box 170, Charlottesville VA 22908

William A. MacIlwaine, IV, MD, Opthalmology, 820 E. High St., Charlottesville VA 22901

George W. Martin, Jr., MD, Diagnostic Radiology, 2509 Commonwealth Dr., Charlottesville VA 22901

Randy Frank Rizor, MD, Anesthesiology, University of Virginia Medical Center, Charlottesville VA 22908

Scott Durand Vogel, MD, Obstetrics/Gynecology, 920 E. High St., Charlottesville VA 22901

Alleghany-Bath Counties Medical Society

Farid Dakermandji, MD, Anesthesiology, Box 111, Clifton Forge VA 24422

Arlington County Medical Society

Brian J. Boland, MD, Internal Medicine, 3801 N. Fairfax Dr., Arlington VA 22203

Richard J. Cambareri, MD, Medical Oncology, 4321 S. 36 St., Arlington VA 22206

Linda Hays Mosely, MD, Plastic Surgery, 2465 Army-Navy Dr., Arlington VA 22206

Danville-Pittsylvania Academy of Medicine

John Charles Lippert, MD, Diagnostic Radiology, Memorial Hospital, Danville VA 24541

Michael Allan Moore, MD, Nephrology, 1040 Main St., Danville VA 24541

Fairfax County Medical Society

Alben G. Goldstein, MD, Rheumatology/Internal Medicine, 6319 Castle Place, Falls Church VA 22044

Ronald Edward Gurney, MD, Gastroenterology/Internal Medicine, 1313 Dolley Madison Blvd., McLean VA 22101

Karen L. Hermansen, MD, Otolaryngology, 8316 Arlington Blvd., Fairfax VA 22031

Michael A. Ross, MD, Obstetrics/Gynecology/6845 Elm St., McLean VA 22101

James River Medical Society

John Robert Wine, MD, Family Practice, Box 20, Dillwyn VA 23936

Lee County Medical Society

Hossein Faize, MD, General/Vascular Surgery, Pennington Gap VA 24227

Norfolk Academy of Medicine

Annette Williams Reda, MD, Ophthalmology, 801 Medical Tower, Norfolk VA 23507

Portsmouth Academy of Medicine

Dae Been Chough, MD, Cardiology, 500 Rodman Ave., Portsmouth VA 23707

Gregory Raymond Montoya, MD, Psychiatry, 301 Fort Lane, Portsmouth VA 23704

Scott Snyder, MD, Psychiatry, Crawford Parkway and Fort Lane, Portsmouth VA 23704

Prince William County Medical Society

Rene B. Alvir, MD, Urology, 6845 Elm Street, McLean VA 22101

Paul I. Miller, MD, Gastroenterology, 14409 Telegraph Rd., Woodbridge VA 22192

Richmond Academy of Medicine

Josephy W. Boatwright, III, MD, Pediatrics, Box 26591, Richmond VA 23261

Conway N. Brewerton, MD, General Practice, 3700 Cliffwood Rd., Richmond VA 23234

Thomas F. Craggs, III, MD, Family Practice, 4301 Meadowdale Blvd., Richmond VA 23234

George Bryan Duck, MD, Urology, 2002 Bremo Rd., Richmond VA 23226

Gordon Neil Kellett, II, MD, Pediatrics, 7628 Piney Branch Rd., Richmond VA 23225

Thomas Lee Moffatt, MD, Internal Medicine, 6740 Forest Hill Ave., Richmond VA 23225

Sung G. Park, MD, Anesthesiology, 1604 Swansbury Dr., Richmond VA 23233

John Michael Pellock, MD, Child Neurology, MCV Station, Box 211, Richmond VA 23298

Angela Valencia Sims, MD, Adult/Child Psychiatry, Virginia Treatment Center, Box 1-L, Richmond VA 23201

T. LePierre Watson, MD, General Practice, 4301 Meadowdale Blvd., Richmond VA 23234

George Gould Wedd, MD, Family Practice, 12220 Diamond Hill Drive, Midlothian VA 23113

Roanoke Academy of Medicine

Joseph Lee Austin, MD, Cardiology, 1315 Second St. SW, Roanoke VA 24016

Fred Jackson Ballenger, MD, Internal Medicine/Nephrology, 550 Walnut Ave. SW, Roanoke VA 24016

Southside Virginia Medical Society

Cedric A. Quick, MD, Otolaryngology, 718 S. Sycamore St., Petersburg VA 23803

Tazewell County Medical Society

Joseph A. Mack, MD, Internal Medicine, Box 84F, Tazewell VA 24651

Virginia Beach Medical Society

Viviana Skansi, MD, Pediatrics, 1732 Sir William Osler Dr., Virginia Beach VA 23454



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Advance registration requested

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MEDICAL UPDATE

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MEETINGS

October 24
Byrd S. Leavell Symposium on Hematologic Neoplasia (University of Virginia and Leukemia Society of America), Boar's Head Inn, *Charlottesville.* 6½ hrs. Cat.1. Fee: $60. Mary Lou Currier, (804) 924-5318.

October 24-25
Newer Diagnostic Techniques for the Practicing Clinician: 52nd Annual McGuire Lecture Series (Medical College of Virginia), *Richmond.* 12 credit hours. Fee: Physicians, $130; visiting housestaff, $25. Kathy E. Johnson, Box 48, MCV Station, Richmond VA 23298, (804) 786-0494.

October 24-26
American Medical Association Regional Meeting, Fairmont Hotel, *Philadelphia.* J. Sturgeon, AMA, 535 N. Dearborn St., Chicago IL 60610.

October 31- November 1
Cooperative Approach for the Multi-Disciplinary Management of Patients with Cancer of the Lung, Head/Neck Area, or Prostate/Bladder (University of North Carolina), *Chapel Hill, North Carolina.* 10 hrs. Cat. 1. Ms. Pam Upchurch, Box 30, MacNider Bldg., Chapel Hill NC 27514, (919) 966-3036.

November 1-2
Recent Advances in Cancer Management: A Reading Retreat (Medical College of Virginia and the American Cancer Society, Virginia Division), *Williamsburg.* 14 hrs. Cat. 1. Fee: $75. Ethel Sketchley, PO Box 7288, Richmond VA 23221; Virginia residents call (800) 552-7996, out of state residents call (804) 359-0208.

November 1-2
Nuclear Medicine Seminar (Virginia Chapter, American College of Radiology and University of Virginia), Boar's Head Inn, *Charlottesville.* 5 hrs. Cat. 1. Charles D. Teates, MD, (804) 924-5201.

November 5-9
Pediatric Urology (Duke University), *Pinehurst, North Carolina.* Ms. Luida Mace, Box 3707, Duke University Medical Center, Durham NC 27710.

November 6
Hypertension (East Tennessee State College of Medicine), *Johnson City, Tennessee.* 8 hrs. credit. Fee: $60. Shirley Bogart, (615) 928-6426, Ext. 204.

November 6-7
Genetics for the Future, a Symposium (Eastern Virginia Medical School and March of Dimes—Birth Defects Foundation), Lewis Hall, *Norfolk.* 10 hrs. Cat. 1. Emma Severance, (804) 446-5859.

November 6-9
133rd Annual Meeting of The Medical Society of Virginia, Conference Center, *Williamsburg.* Robert I. Howard, (804) 353-2721.

November 8-9
Biannual Meeting of the Neuropsychiatric Society of Virginia, Conference Center, *Williamsburg.* Mrs. Carol Medlin, Executive Secretary, (804) 746-7648.

November 10-13
Update in Cardiovascular Diseases (University of North Carolina), *Pinehurst, North Carolina.* 29 hrs. Cat. 1. William Wood, MD, 319 MacNider Bldg., 202-H, Chapel Hill NC 27514.

November 13
High Risk Pregnancy (Roanoke Memorial Hospital), *Roanoke.* William H. McAfee, Roanoke Memorial Hospital, Belleview at Jefferson St., Roanoke VA 24033.

November 13-14
Continuing Medical Education Conference (State Health Department), one day at Best Western Mount Vernon, *Charlottesville*; one day at Wilson Rehabilitation Center, *Fisherville.* 12 hrs. Cat. 1. E. G. Stone, (804) 786-3165.

November 13-15
National Forum on Comprehensive Cancer Rehabilitation and Its Vocational Implications (Virginia Department of Rehabilitative Services and Medical College of Virginia), *Williamsburg.* 14 hrs. Cat. 1. Fee: $175. Kathy E. Johnson, (804) 786-0496.

November 16-18
Annual Meeting of the American Society of Nephrology, *Washington, DC.* Jan Sharkey, Charles B. Slack, Inc., Thorofare NJ 08086.

November 16-19
74th Annual Scientific Assembly of the Southern Medical Association, *San Antonio, Texas.* Southern Medical Association, 2601 Highland Ave., Birmingham AL 35256, (205) 323-4400.

November 19
14th Annual William R. Whitman Memorial Lecture: "Meeting the Challenge of Cancer" (Lewis-Gale Medical Foundation), Hidden Valley Country Club, *Salem.* Robert F. Roth, MD, PO Box 44, Salem VA 24153, (703) 389-9107.

November 21-23
Critical Issues in the Health of the School-Aged Child (Medical College of Virginia), *Williamsburg.* 10 hrs. Cat. 1. Fee: MDs, $160; others, $80. Kathy E. Johnson, (804) 786-0496.

More meetings next page.

November 22
5th Annual Symposium on the Care of the Critically Ill Patient: Vascular Emergencies, Diagnosis and Treatment (Fairfax Hospital), Springfield Hilton, *Springfield.* Dr. Barry Newman, (703) 321-4255.

December 4-5
Advances in Obstetrics and Gynecology (Medical College of Virginia), Baruch Auditorium, *Richmond* 10 hrs. Cat. 1. Kathy E. Johnson, (804) 786-0496.

December 4-5
The Athlete: Risks of Injury and Sudden Death; Preventive and Therapeutic Considerations (American Heart Association, American Academy of Orthopaedic Surgeons, American College Health Association, American College of Sports Medicine, American College of Chest Physicians, American Academy of Family Physicians), Grand Hyatt Hotel New York, *New York City.* 19 hrs. Cat. 1. Fee: members, $225; non-members, $275; house officers/fellows, $100. American Association, Scientific Sessions, 7320 Greenville Ave., Dallas TX 75231.

December 5
R. Carl Bunts Memorial Lectureship in Urology (Medical College of Virginia), *Richmond.* 6 hrs. Cat. 1. Kathy E. Johnson, (804) 786-0496.

December 5-6
First Statewide Emergency Medical Services Symposium (State Health Department; Virginia Chapters of the American College Emergency Physicians and American College of Physicians; Emergency Department Nurses Association; The Medical Society of Virginia; Virginia Division America Trauma Society; Virginia Emergency Medical Technicians Association; Virginia Association Volunteer Rescue Squads), Fort Magruder Conference Center, *Williamsburg.* Fee: $15. Mrs. Mary Camp, (804) 786-5180.

December 5-6
Advances in Hematology (University of Maryland), *Baltimore.* Betty B. Saar, (301) 528-3956.

December 5-7
Annual Meeting of the Society for Ear, Nose and Throat Advances in Children, *Vail, Colorado.* Marion Downs, University of Colorado Medical Center, 4200 E. Ninth Ave., Denver CO 80220.

December 7-10
Coronary, Hypertensive, Valvular and Myocardial Heart Diseases: Multi-Disciplinary Approach (American College of Cardiology), Williamsburg Lodge, *Williamsburg.* American College of Cardiology, 9111 Old Georgetown Road, Bethesda MD 20014.

Tenuate®
(diethylpropion hydrochloride NF)
Tenuate Dospan®
(diethylpropion hydrochloride NF) controlled-release

AVAILABLE ONLY ON PRESCRIPTION
Brief Summary
INDICATION: Tenuate and Tenuate Dospan are indicated in the management of exogenous obesity as a short-term adjunct (a few weeks) in a regimen of weight reduction based on caloric restriction. The limited usefulness of agents of this class should be measured against possible risk factors inherent in their use such as those described below.
CONTRAINDICATIONS: Advanced arteriosclerosis, hyperthyroidism, known hypersensitivity, or idiosyncrasy to the sympathomimetic amines, glaucoma. Agitated states. Patients with a history of drug abuse. During or within 14 days following the administration of monoamine oxidase inhibitors, (hypertensive crises may result).
WARNINGS: If tolerance develops, the recommended dose should not be exceeded in an attempt to increase the effect; rather, the drug should be discontinued. Tenuate may impair the ability of the patient to engage in potentially hazardous activities such as operating machinery or driving a motor vehicle; the patient should therefore be cautioned accordingly. *Drug Dependence:* Tenuate has some chemical and pharmacologic similarities to the amphetamines and other related stimulant drugs that have been extensively abused. There have been reports of subjects becoming psychologically dependent on diethylpropion. The possibility of abuse should be kept in mind when evaluating the desirability of including a drug as part of a weight reduction program. Abuse of amphetamines and related drugs may be associated with varying degrees of psychologic dependence and social dysfunction which, in the case of certain drugs, may be severe. There are reports of patients who have increased the dosage to many times that recommended. Abrupt cessation following prolonged high dosage administration results in extreme fatigue and mental depression; changes are also noted on the sleep EEG. Manifestations of chronic intoxication with anorectic drugs include severe dermatoses, marked insomnia, irritability, hyperactivity, and personality changes. The most severe manifestation of chronic intoxications is psychosis, often clinically indistinguishable from schizophrenia. *Use in Pregnancy:* Although rat and human reproductive studies have not indicated adverse effects, the use of Tenuate by women who are pregnant or may become pregnant requires that the potential benefits be weighed against the potential risks. *Use in Children:* Tenuate is not recommended for use in children under 12 years of age.
PRECAUTIONS: Caution is to be exercised in prescribing Tenuate for patients with hypertension or with symptomatic cardiovascular disease, including arrhythmias. Tenuate should not be administered to patients with severe hypertension. Insulin requirements in diabetes mellitus may be altered in association with the use of Tenuate and the concomitant dietary regimen. Tenuate may decrease the hypotensive effect of guanethidine. The least amount feasible should be prescribed or dispensed at one time in order to minimize the possibility of overdosage. Reports suggest that Tenuate may increase convulsions in some epileptics. Therefore, epileptics receiving Tenuate should be carefully monitored. Titration of dose or discontinuance of Tenuate may be necessary.
ADVERSE REACTIONS: *Cardiovascular:* Palpitation, tachycardia, elevation of blood pressure, precordial pain, arrhythmia. One published report described T-wave changes in the ECG of a healthy young male after ingestion of diethylpropion hydrochloride. *Central Nervous System:* Overstimulation, nervousness, restlessness, dizziness, jitteriness, insomnia, anxiety, euphoria, depression, dysphoria, tremor, dyskinesia, mydriasis, drowsiness, malaise, headache; rarely psychotic episodes at recommended doses. In a few epileptics an increase in convulsive episodes has been reported. *Gastrointestinal:* Dryness of the mouth, unpleasant taste, nausea, vomiting, abdominal discomfort, diarrhea, constipation, other gastrointestinal disturbances. *Allergic:* Urticaria, rash, ecchymosis, erythema. *Endocrine:* impotence, changes in libido, gynecomastia, menstrual upset. *Hematopoietic System:* Bone marrow depression, agranulocytosis, leukopenia. *Miscellaneous:* A variety of miscellaneous adverse reactions has been reported by physicians. These include complaints such as dyspnea, hair loss, muscle pain, dysuria, increased sweating, and polyuria.
DOSAGE AND ADMINISTRATION: Tenuate (diethylpropion hydrochloride): One 25 mg. tablet three times daily, one hour before meals, and in midevening if desired to overcome night hunger. Tenuate Dospan (diethylpropion hydrochloride) controlled-release: One 75 mg tablet daily, swallowed whole, in midmorning. Tenuate is not recommended for use in children under 12 years of age.
OVERDOSAGE: Manifestations of acute overdosage include restlessness, tremor, hyperreflexia, rapid respiration, confusion, assaultiveness, hallucinations, panic states. Fatigue and depression usually follow the central stimulation. Cardiovascular effects include arrhythmias, hypertension or hypotension and circulatory collapse. Gastrointestinal symptoms include nausea, vomiting, diarrhea, and abdominal cramps. Overdose of pharmacologically similar compounds has resulted in fatal poisoning, usually terminating in convulsions and coma. Management of acute Tenuate intoxication is largely symptomatic and includes lavage and sedation with a barbiturate. Experience with hemodialysis or peritoneal dialysis is inadequate to permit recommendation in this regard. Intravenous phentolamine (Regitine™) has been suggested on pharmacologic grounds for possible acute, severe hypertension, if this complicates Tenuate overdosage.
Product Information as of April, 1976
MERRELL-NATIONAL LABORATORIES Inc.
Cayey, Puerto Rico 00633
Direct Medical Inquiries to:
MERRELL-NATIONAL LABORATORIES
Division of Richardson-Merrell Inc.
Cincinnati, Ohio 45215, U.S.A.
Licensor of Merrell®

References: 1. Citations available on request from Medical Research Department, MERRELL-NATIONAL LABORATORIES, Cincinnati, Ohio 45215. 2. Hoekenga, M.T., O'Dillon [Dillon], R.H., and Leyland, H.M.: A comprehensive review of diethylpropion hydrochloride. In, Central Mechanisms of Anorectic Drugs, S. Garattini and R. Samanin, Ed., New York, Raven Press, 1978, pp. 391-404

Merrell
9-4672 (Y957A)

Overweight may not always be simple... complications can develop.*

Complicated or not...

Tenuate® Dospan® ©IV

(diethylpropion hydrochloride NF)

75 mg. controlled-release tablets



A useful short-term adjunct in an indicated weight loss program.

Overweight patients in certain diagnostic categories often require strict appetite control and a successful program of weight reduction may tend to diminish the incidence or severity of the complications in some patients. Diethylpropion hydrochloride has been reported useful in such patients and while it is not suggested that Tenuate itself in any way reduces the complications of overweight, it may have a useful place as a short-term adjunct in a prescribed dietary regimen. **Tenuate should not be administered to patients with severe hypertension; see additional Warnings and Precautions on the opposite page.**

In uncomplicated overweight.

Many patients, on the other hand, present with excess fat but no disease. While this condition is often termed uncomplicated obesity, complications of both a social and a psychologic nature may be distressingly real for the patients. In these cases, a short-term regimen of Tenuate can help reinforce your dietary counsel during the important early weeks of an indicated weight loss program.

Clinical effectiveness.

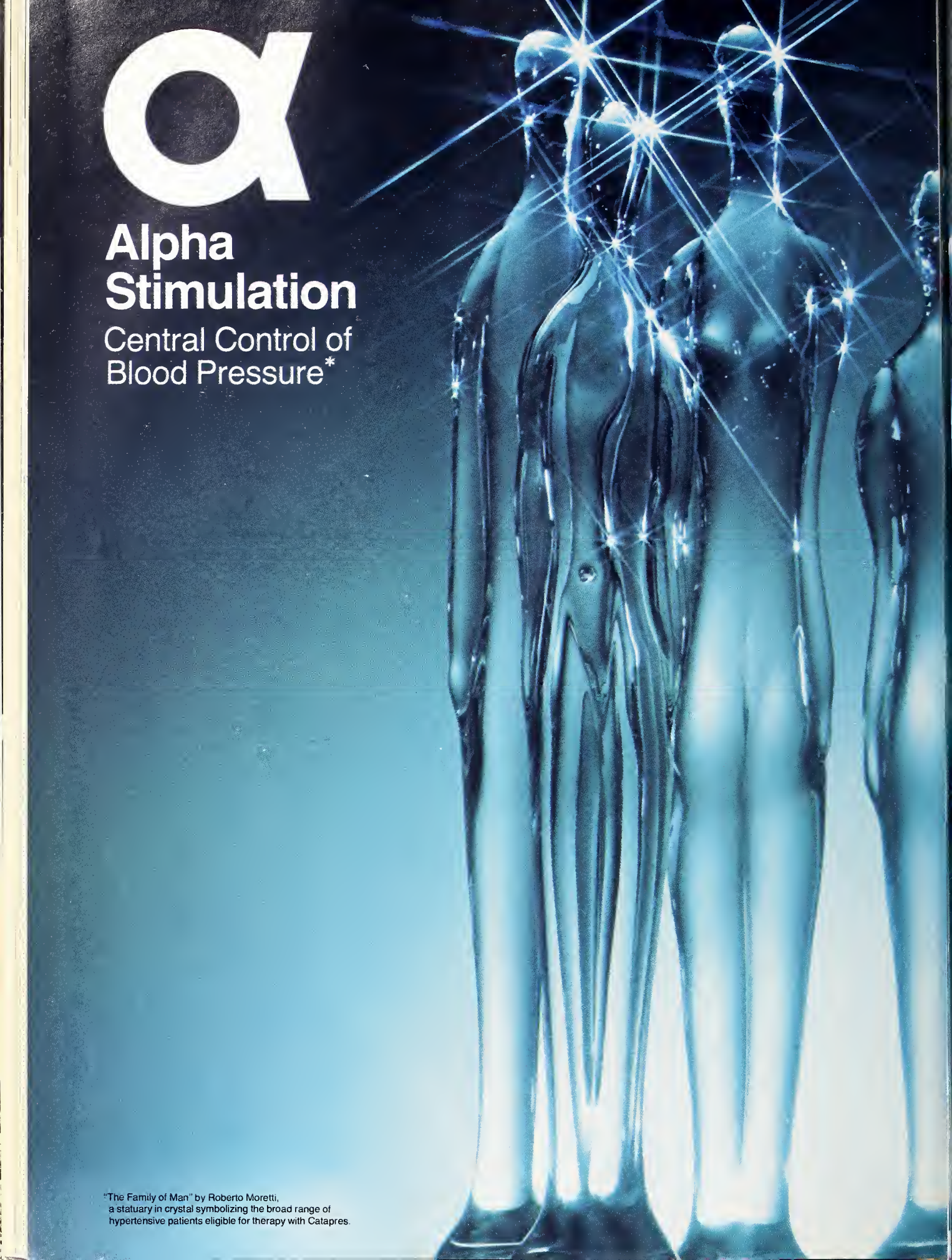
The anorectic effectiveness of diethylpropion hydrochloride is well documented. No less than 16 separate double-blind, placebo-controlled studies attest to its usefulness in daily practice.[1] And the unique chemistry of Tenuate provides "...anorectic potency with minimal overt central nervous system or cardiovascular stimulation."[2] Compared with the amphetamines, diethylpropion has minimal potential for abuse.

Tenuate—it makes sense. And it's responsible medicine.

*Studies have shown that obesity is associated with an increased incidence of hypertension, symptomatic heart disease, adult-onset diabetes, and other diseases.

Merrell

For prescribing information see opposite page.



Alpha Stimulation

Central Control of Blood Pressure*

"The Family of Man" by Roberto Moretti,
a statuary in crystal symbolizing the broad range of
hypertensive patients eligible for therapy with Catapres.

The Alpha Advantage:

It's for all kinds of hypertensives

- *Unlike beta blockers, Catapres® has no contraindications.*
- *Catapres can be useful even in these patients with:*

Congestive heart failure	Allergic rhinitis
Ventricular hypertrophy	Hepatic disease
Hyperglycemia	Hyperuricemia
Diabetes mellitus	Gouty arthritis
Bronchial asthma	Sulfonamide hypersensitivity

Like any antihypertensive, use with caution in severe coronary insufficiency, recent myocardial infarction, cerebrovascular disease or chronic renal failure.

work/play—normal hemodynamic responses to exercise maintained.

love—low incidence of impotence and/or loss of libido: 2.8% in 1,923 patients studied.[1]

cardiac output—tends to return to control values during long-term therapy.

blood flow—preserved in kidney.

No Single Advantage Determines Drug Choice.

Other factors must include:

The drug's effectiveness in a given patient, its side effects, warnings, precautions, tolerance, etc. A rational therapeutic choice depends on a careful assessment of all such factors.

*Central alpha-adrenergic stimulation decreases sympathetic outflow from the brain, as shown in animal studies.

1. Data on file at Boehringer Ingelheim Ltd.

Please see last page for brief summary, including warnings, precautions, and adverse reactions.

Now available in new 0.3 mg tablets

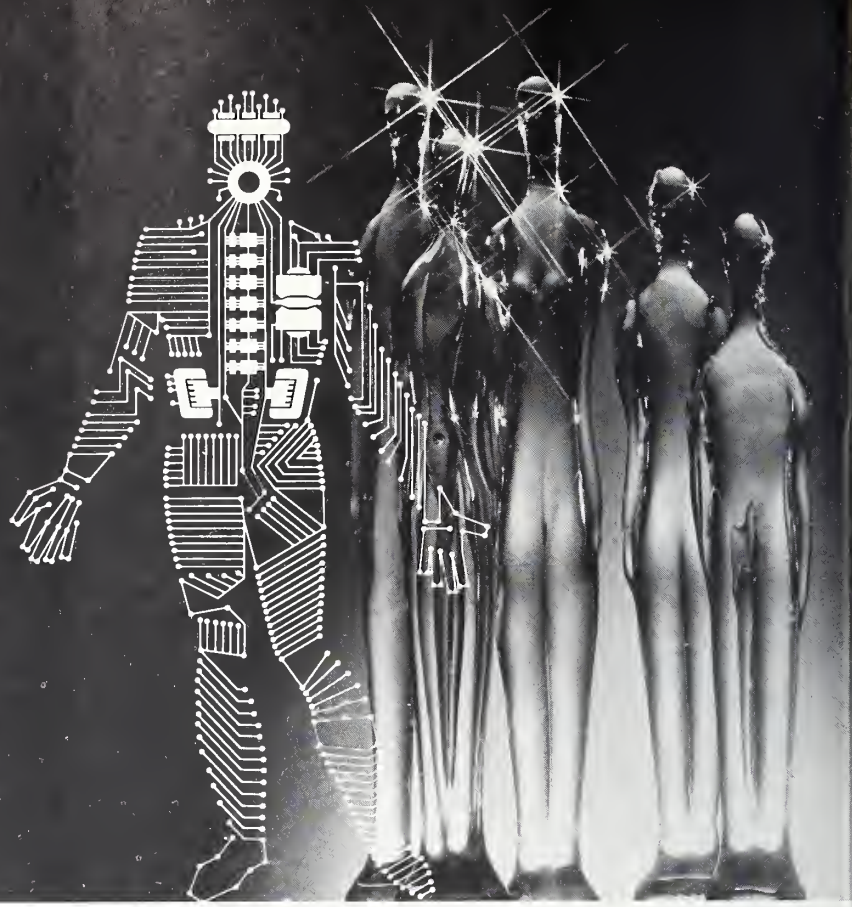


Tablets of 0.1, 0.2, 0.3 mg

Catapres®
(clonidine HCl)
Hypertension

The Alpha Advantage:

It's for all kinds of hypertensives



Tablets of 0.1, 0.2, 0.3 mg

Catapres®
(clonidine HCl)

Hypertension

- No contraindications.
- Effective in all degrees of hypertension. It is mild to moderate in potency.
- Low incidence of depression, impotence, orthostatic hypotension—no fatal hepatotoxicity.
- Preserves kidney blood flow.

Most common side effects are dry mouth, drowsiness, and sedation which generally tend to diminish with time.

The usual starting dose of Catapres is 0.1 mg at breakfast and 0.1 mg at bedtime. Some patients may benefit from a starting dose of 0.1 mg at bedtime.

Usual daily dose range—0.2—0.8 mg

Maximum daily dose—2.4 mg
Doses as high as this have rarely been employed.

For optimal results, the dose of Catapres must be adjusted according to the patient's individual blood pressure response.

Catapres®
(clonidine hydrochloride)
Tablets of 0.1, 0.2, 0.3 mg

Indication: The drug is indicated in the treatment of hypertension. As an antihypertensive drug, Catapres (clonidine hydrochloride) is mild to moderate in potency. It may be employed in a general treatment program with a diuretic and/or other antihypertensive agents as needed for proper patient response.

Warnings: Tolerance may develop in some patients necessitating a reevaluation of therapy.
Usage in Pregnancy: In view of embryotoxic findings in animals, and since information on possible adverse effects in pregnant women is limited to uncontrolled clinical data, the drug is not recommended in women who are or may become pregnant unless the potential benefits outweigh the potential risk to mother and fetus.
Usage in Children: No clinical experience is available with the use of Catapres (clonidine hydrochloride) in children.

Precautions: When discontinuing Catapres (clonidine hydrochloride), reduce the dose gradually over 2 to 4 days to avoid a possible rapid rise in blood pressure and associated subjective symptoms such as nervousness, agitation, and headache. Patients should be instructed not to discontinue therapy without consulting their physician. Rare instances of hypertensive encephalopathy and death have been recorded after cessation of clonidine hydrochloride therapy. A causal relationship has not been established in these cases. It has been demonstrated that an excessive rise in blood pressure, should it occur, can be reversed by resumption of clonidine hydrochloride therapy or by intravenous phentolamine. Patients who engage in potentially hazardous activities, such as operating machinery or driving, should be advised of the sedative effect. This drug may enhance the CNS-depressive effects of alcohol, barbiturates and other sedatives. Like any other agent lowering blood pressure, clonidine hydrochloride should be used with caution in patients with severe coronary insufficiency, recent myocardial infarction, cerebrovascular disease or chronic renal failure.

As an integral part of their overall long-term care, patients treated with Catapres (clonidine hydrochloride) should receive periodic eye examinations. While, except for some dryness of the eyes, no drug-related abnormal ophthalmologic findings have been recorded with Catapres (clonidine hydrochloride), in several studies the drug produced a dose-dependent increase in the incidence and severity of spontaneously occurring retinal degeneration in albino rats treated for 6 months or longer.

Adverse Reactions: The most common reactions are dry mouth, drowsiness and sedation. Constipation, dizziness, headache, and fatigue have been reported. Generally these effects tend to diminish with continued therapy. The following reactions have been associated with the drug, some of them rarely. (In some instances an exact causal relationship has not been established.) These include: Anorexia, malaise, nausea, vomiting, parotid pain, mild transient abnormalities in liver function tests; one report of possible drug-induced hepatitis without icterus and hyperbilirubinemia in a patient receiving clonidine hydrochloride, chlorthalidone and papaverine hydrochloride. Weight gain, transient elevation of blood glucose, or serum creatine phosphokinase: congestive heart failure, Raynaud's phenomenon; vivid dreams or nightmares, insomnia, other behavioral changes, nervousness, restlessness, anxiety and mental depression. Also rash, angioneurotic edema, hives, urticaria, thinning of the hair, pruritus not associated with a rash, impotence, urinary retention, increased sensitivity to alcohol, dryness, itching or burning of the eyes, dryness of the nasal mucosa, pallor, gynecomastia, weakly positive Coombs' test, asymptomatic electrocardiographic abnormalities manifested as Wenckebach period or ventricular trigeminy.

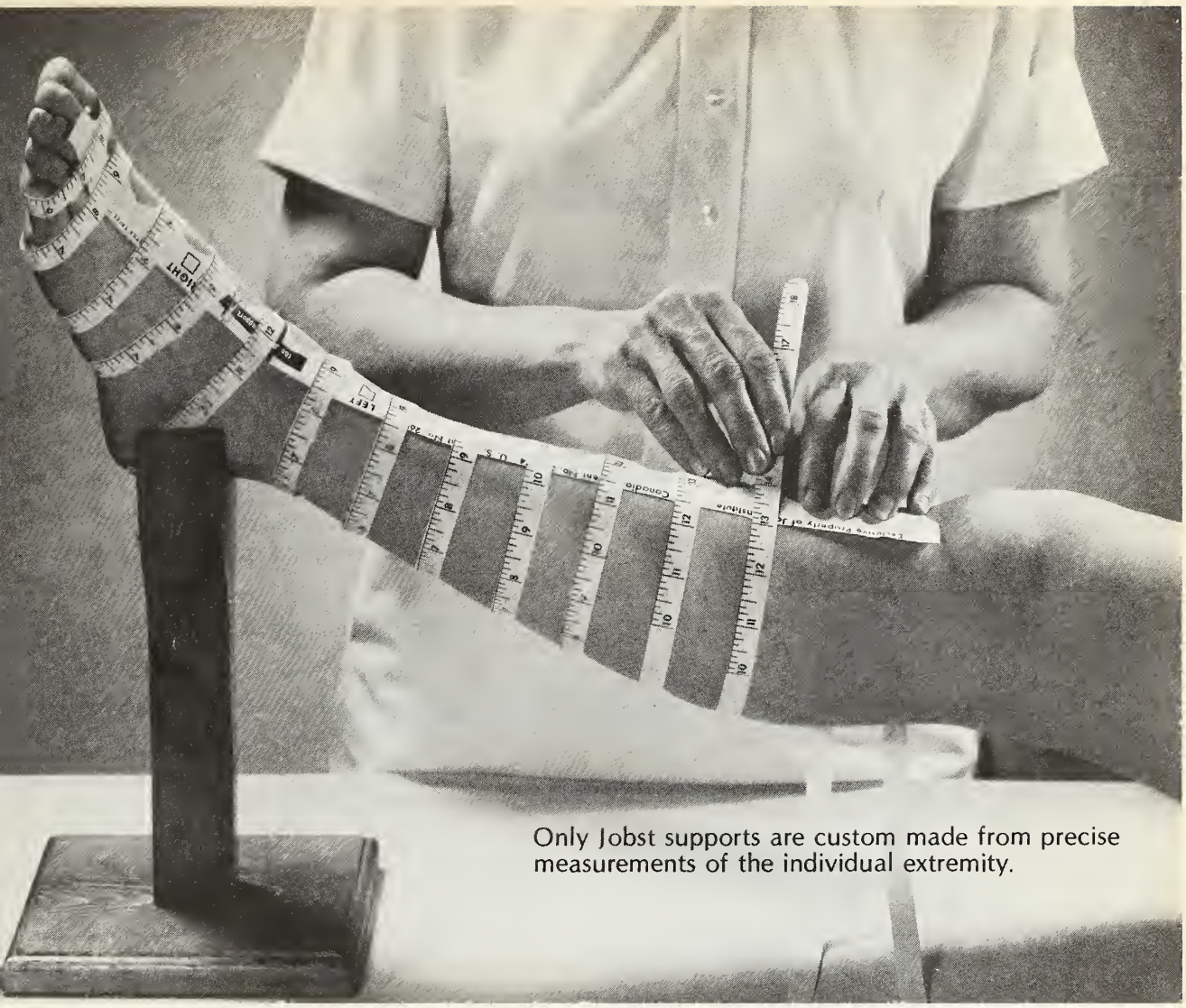
Overdosage: Profound hypotension, weakness, somnolence, diminished or absent reflexes and vomiting followed the accidental ingestion of Catapres (clonidine hydrochloride) by several children from 19 months to 5 years of age. Gastric lavage and administration of an analeptic and vasopressor led to complete recovery within 24 hours. Tolazoline in intravenous doses of 10 mg at 30-minute intervals usually abolishes all effects of Catapres, (clonidine hydrochloride) overdosage.

How Supplied: Catapres, brand of clonidine hydrochloride, is available as 0.1 mg (tan) and 0.2 mg (orange) oval, single-scored tablets in bottles of 100 and 1000. Also available as 0.3 mg (peach) oval, single-scored tablets in bottles of 100.

For complete details, please see full prescribing information.

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Only Jobst supports are custom made from precise measurements of the individual extremity.

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These measured, custom-made therapeutic elastic supports have carried the Jobst name to the four corners of the world. Prescription only, the supports can be engineered with counterpressures of 25, 30, 40 or 50 mm.Hg at the ankle, decreasing proximally along the venous pressure gradient. They are available in knee-length, full-leg, waist-height and lymphedema sleeve styles. The waist-height Jobst Pregnancy Leotard deserves special mention because each one is custom made with an expandable panel according to the patient's own measurements.

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Form **1040** Department of the Treasury—Internal Revenue Service **U.S. Individual Income Tax Return** **1979**

For Privacy Act Notice, see page 3 of Instructions. | For the year January 1–December 31, 1979, or other tax year beginning , 1979, ending , 19

Use IRS label. Otherwise, please print or type. | Your first name and initial (if joint return, also give spouse's name and initial) | Last name | Your social security number

Present home address (Number and street, including apt. no., rural route or P.O. box) | Spouse's social security no.

City, town or post office, State and ZIP code | Spouse's occupation ▶

Presidential Election Campaign Fund — Checking "Yes" will not increase your tax or reduce your refund.

Taxes and inflation are two major economic counterforces.

We believe...

The true test of an investment is its after-tax and after-inflation rate of return. The real test of a tax shelter is its merits when considered without regard to any tax benefits.

Filing Status — Check only one box.

4 Head of household. (See page 7 of Instructions.) If qualifying person is your unmarried child, enter child's

Exemptions — Always check the box labeled Yourself. Check other boxes if they apply.

b ☐ Spouse ☐ 65 or over ☐ Blind — Enter number of boxes checked on 6a and b ▶

c First names of your dependent children who lived with you ▶ — Enter number of children listed ▶

d Other dependents (1) Name	(2) Relationship	(3) Number of months lived in your home	(4) Did dependent have income of $1,000 or more?	(5) Did you provide more than one-half of dependent's support?

Enter number of other dependents ▶ Add numbers entered in boxes above ▶

7 Total

Income — Please attach Copy B of your Forms W–2 here. If you do not have a W–2, see page 5 of Instructions.

8	Wages,	8	
9	Interest income (attach Schedule B if over $400)	9	
10a	Dividend		
c	Subtract line 10b from line 10a	10c	
11	State and local income tax refunds (does not apply unless refund is for	11	
12	Alimony received	12	
13	Business	13	
14	Capital (attach Schedule D)	14	
15	Taxable part of capital gain distributions not reported on Schedule D (see page 10 of Instructions)	15	
16	Supplemental gains or (losses) (attach Form 4797)	16	
17	Fully taxable pensions and annuities not reported on Schedule E	17	
18	Pensions, annuities, rents, royalties, partnerships, estates or trusts, etc. (attach Schedule E)	18	
19	Farm income or (loss) (attach Schedule F)	19	
20a	Unemployment compensation Total amount received		
b	Taxable part, if any, from worksheet on page 10 of Instructions	20b	
21	Other income (state nature and source—see page 10 of Instructions) ▶	21	
22	Total income. Add amounts in column for lines 8 through 21 ▶	22	

Please attach check or money order here.

Adjustments to Income

23	Moving expense (attach Form 3903 or 3903F)	23		
24	Employee business expenses (attach Form 2106)	24		
25	Payments to an IRA (see page 11 of Instructions)	25		
26	Payments to a Keogh (H.R. 10) retirement plan	26		
27	Interest penalty on early withdrawal of savings	27		
28	Alimony paid (see page 11 of Instructions)	28		
29	Disability income exclusion (attach Form 2440)	29		
30	Total adjustments. Add lines 23 through 29 ▶			30

Adjusted Gross 31 Adjusted gross income. Subtract line 30 from line 22. If this line is less than $10,000 see page 2 of Instructions. If you want IRS to figure your tax, see page 4

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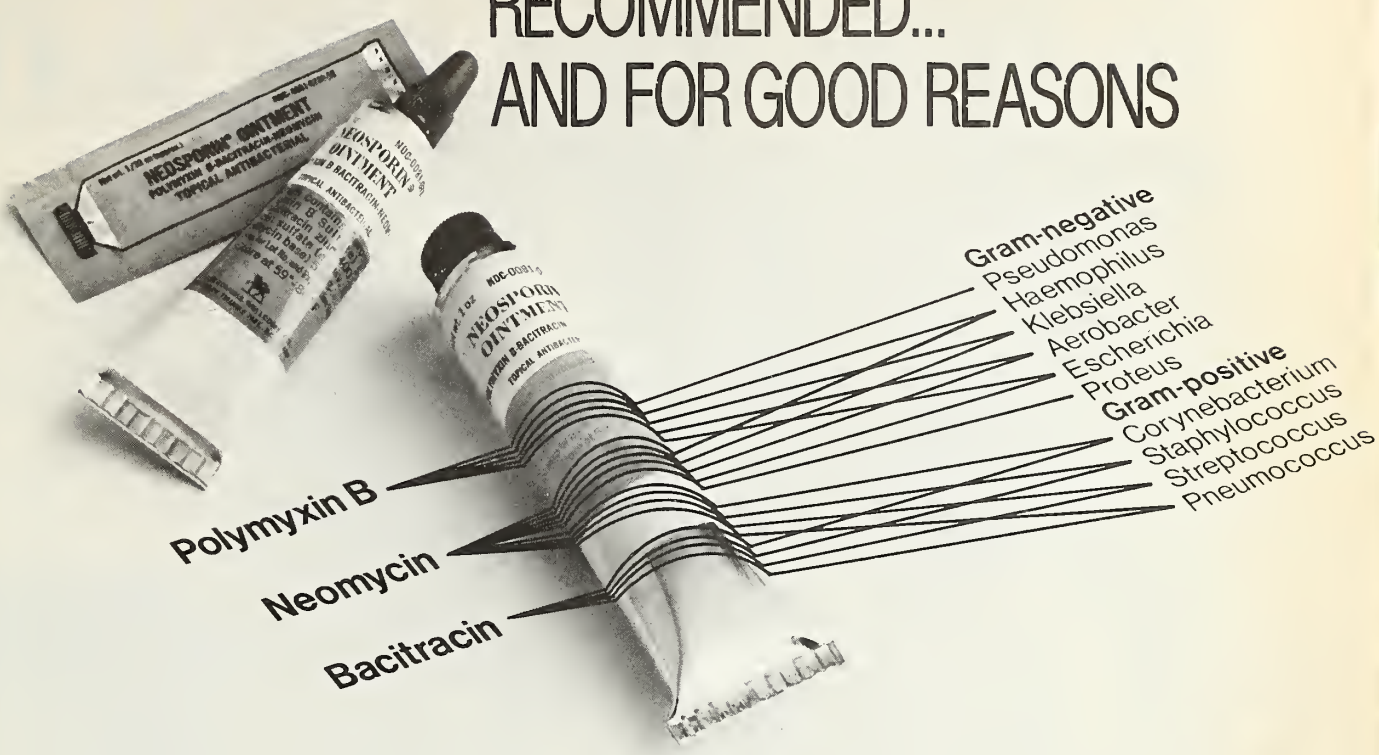
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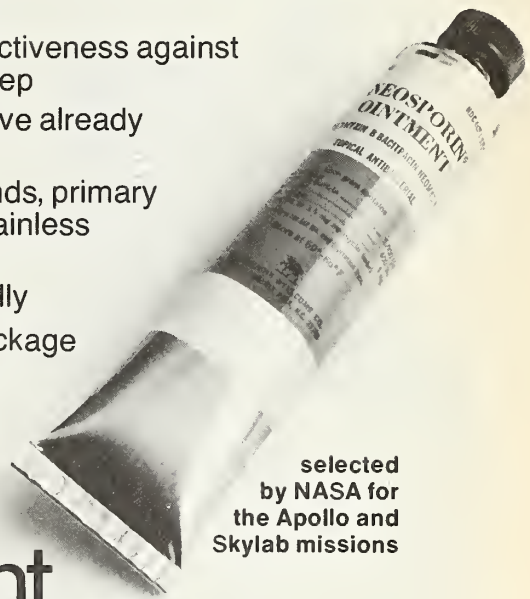
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WARNING: Because of the potential hazard of nephrotoxicity and ototoxicity due to neomycin, care should be exercised when using this product in treating extensive burns, trophic ulceration and other extensive conditions where absorption of neomycin is possible. In burns where more than 20 percent of the body surface is affected, especially if the patient has impaired renal function or is receiving other aminoglycoside antibiotics concurrently, not more than one application a day is recommended.

When using neomycin-containing products to control secondary infection in the chronic dermatoses, it should be borne in mind that the skin is more liable to become sensitized to many substances, including neomycin. The manifestation of sensitization to neomycin is usually a low grade reddening with swelling, dry scaling and itching; it may be manifest simply as a failure to heal. During long-term use of neomycin-containing products, periodic examination for such signs is advisable and the patient should be told to discontinue the product if they are observed. These symptoms regress quickly on withdrawing the medication. Neomycin-containing applications should be avoided for that patient thereafter.

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Complete literature available on request from Professional Services Dept. PML.

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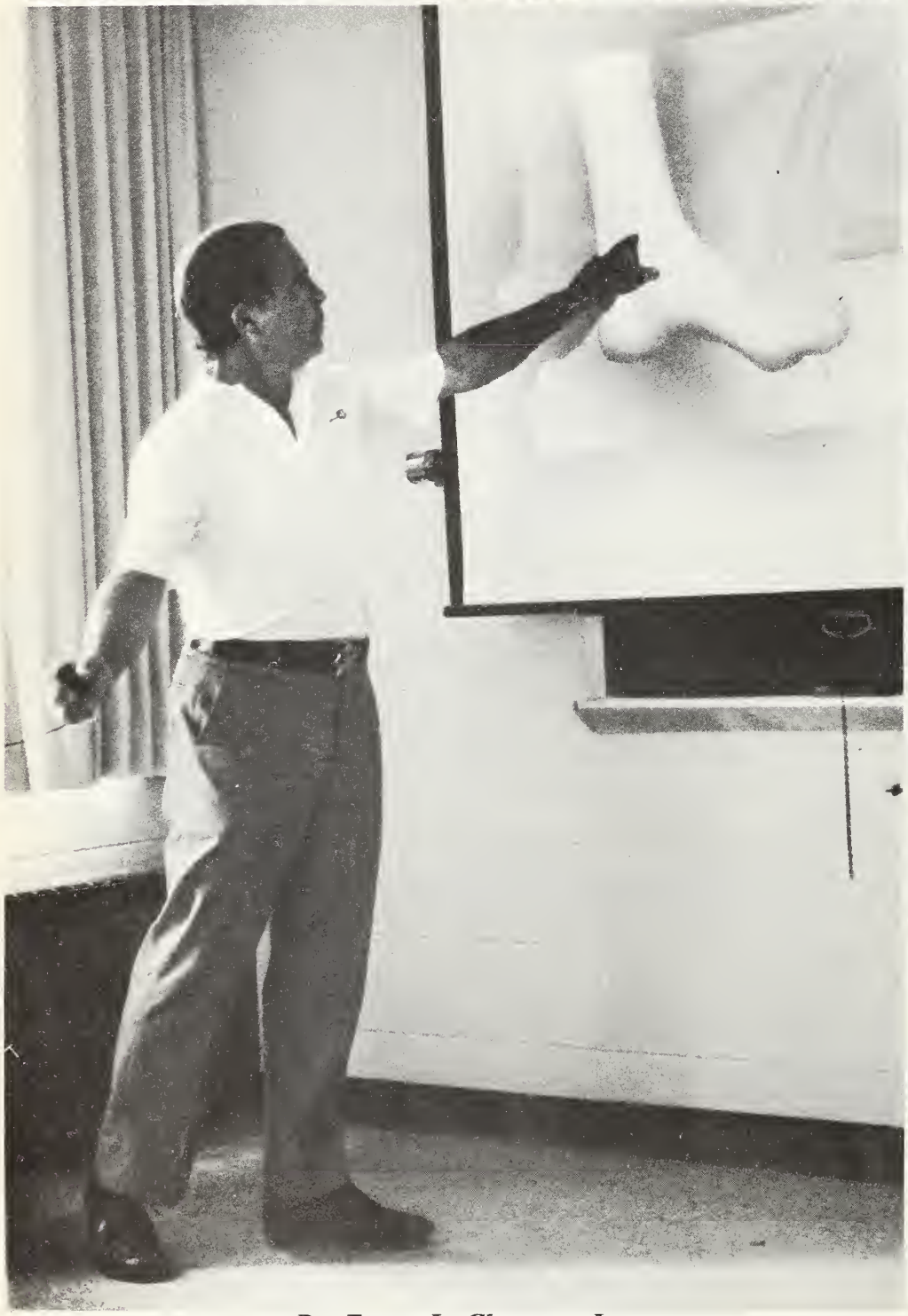
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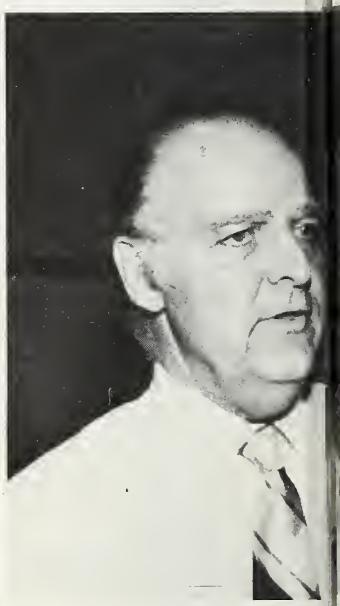
Members of the Sports Medicu Committee teach emergency medical c to Virginia's high school coaches.

By Carl L. Shires

Photographs by Melissa Grimes



Dr. Ernest L. Clements, Jr.



Dr. Virgi



Dr. Frank C. McCue, III

coach



Dr. Robert P. Nirschl with Trainer Don Tillson

VIRGINIA high school athletic coaches just might have a trifle of trouble picking up on Gray's *Anatomy* in a 40-minute session. Ponderous lectures on the synovial lining, an acrominoclavicular junction, or a lateral meniscus could leave them cold, if not asleep.

But put those coaches in small groups, show them some graphic medical slides, let them participate in some "hands on" activity, talk in lay talk, open up the sessions for questions and answers, and spice it all with humor and common sense. What you've got then is a winning liaison between The Medical Society of Virginia and the Virginia High School Coaches Association.

Thus it was at the fourth summer seminar conducted by members of the MSV Sports Medicine Committee for the state's high school coaches at the University of Richmond's Robins Center.

As a result, coaches went back to their respective squads with new insights on "What do I look for, then what do I do?" when the inevitable sports injuries come during training, practice and competition.

The four orthopedists who carried the seminar ball were Dr. Robert P. Nirschl of Arlington, the committee's chairman; Dr. Frank C. McCue, III, of Charlottesville; and Dr. Ernest L. Clements, Jr., and Dr. Virgil May, both of Richmond.

Dr. Nirschl, who has written extensively and lectured nationally on sports medicine topics, held forth on the knee; Dr. McCue, team physician for the University of Virginia, was the in-house expert on wrists and hands; Dr. May, basketball team physician at Virginia Commonwealth University, talked to coaches (and a smattering of trainers) in his folksy manner on the "most mobile joint in the body", the shoulder; Dr. Clements, team physician for the University of Rich-



At a meeting of The Medical Society of Virginia's Sports Medicine Committee: from left, Dr. Robert P. Nirschl, Arlington, Chairman; Dr. Richard E. Bullock, Blacksburg; Dr. Virgil May, Richmond; Dr. David B. Young, Norfolk; Dr. Ernest L. Clements, Jr., Richmond; Dr. Jay E. Hopkins, Lynchburg; Dr. Oscar W. Ward, Hampton; Dr. Louis P. Ripley, Roanoke; Dr. Richard H. Fisher, Salem; and Dr. Frank C. McCue, III, Charlottesville.

mond, was the expert on ankles—"accounting for 75% of sports injuries."

Dr. Clements typified the lay talk of the day when he furnished an acronymn—mnenomic device, if you will—for treatment of ankle injuries. RICE, he put it, then explained: Rest, Ice, Compression, Elevation. Coaches understand that sort of talk.

From his long association with the athletic program at the University of Richmond, Dr. Clements confided that he finally had determined the "precise" definition of a "bad sprain." That, he said, "is one that happens to your best athlete and lasts three/four weeks." From experience, too, he furnished this gem of orthopedic insight: "Football players get injured playing pickup basketball."

He had another warning word for the coaches: "Avoid emergency rooms on ankle sprains. Emergency rooms seem to be strong on applying casts . . . and for ankle sprains, that's the worst thing they could do."

Dr. Nirschl, whose relaxed and confident manner bespoke his years of treatment of world-class tennis players, told the assembled coaches that the "first 30 minutes after an injury are the golden moments." Within that initial half hour, he explained, an examination can be made without the challenges of swelling and discoloration—and, frequently, without pain.

He emphasized, too, to the coach/audience that came in groups of approximately 50 to each of the four dissertations, that they and their staffs should certainly know enough not to do the wrong things. "The legal beagles are always out there," he reminded.

Dr. May coupled explanations to the coaches with stern warnings on fluid intake during practice and games. "Give them every water break you can, otherwise you're go-

ing to kill somebody," was the message. Dr. May also placed considerable emphasis on avoidance of heat strokes and double emphasis on humidity's contribution to such strokes. Heavy humidity messes up the body's natural cooling system of perspiration and evaporation, he explained.

Dr. McCue, knowledgeable on all sorts of sports injuries through his long association with the University of Virginia, held forth on hands and wrists. The non-weight-bearing joints of the upper appendage take some odd twists and turns when subjected to the weight bearing that comes inevitably to them during contact sports. He had the color slides to support that thesis.

But it is not only contact sports that bring injuries to Virginia's high schoolers, the physicians pointed out. What with Title IX emphasis on women's sports, the girls are showing up with injuries in such non-contact activities as gymnastics. (Title IX is having its impact, too, on the coaching ranks, as was manifested by the number of female coaches present at the 3½-day conference. Among the approximately 900 coaches present, about 150 were women. The percentage of women among attending coaches is growing steadily, according to directors of the annual coaches' conference.)

Partial explanation for the high incidence of girls' gymnastic injuries: Many females do not have a long history of sports participation, they watch exhibitions and competition on television and then attempt what their bodies often are not conditioned or equipped to do.

HISTORICALLY and professionally, physicians do not go about bragging of their medical prowess and contributions. In the case of this seminar; they need not do so. A veteran high school coach and now athletic director at Douglas Southall Freeman High School in Henrico County will grab that verbal ball and run with little stimulation to do so.

Hear this from James Sangston, who is also veteran director of the annual coaching conference: "The doctors do a super job and that is becoming more evident each year . . . Three or four years ago, we might be lucky if 30 of the coaches attended the medical lectures; this year I think the figure was up to more than 200."

"This format of bringing in groups of coaches to hear the four doctors on a rotating basis, and the way those four talk—not down, but in understandable terms—has got the coaches interested. Instead of going off to play golf or sleeping in, more and more of them are there listening and asking questions. The medical part of the annual program is an important aspect and becoming more so. . . The coaches are learning, and that learning is important. Because of the liability factor they need to be trained to give emergency care, or at least not screw up and make matters worse.

"Not only the four who participated here this year are doing a great job. Several doctors about the state have become very actively involved; to mention a couple of them, Dr. Lou Ripley of Roanoke and Dr. Gervas Taylor of Norfolk."

He concluded: "I can't say enough in praise of the interest and expertise that Dr. Nirschl provides. His enthusiasm and his real understanding of talking at the coaching level is contagious."

Informed of those quotes from Sangston, Dr. Nirschl was becomingly modest. "Basically," he said, "I do indeed see growing friendship between the state medical society and the coaches throughout Virginia. The coaches have come to realize they need help and The Medical Society of Virginia is eager to offer what it can toward protecting the youth of our state . . . I see, too, a continuing development in that regional and local medical societies are becoming more interested, more active." He cited the Arlington County Medical Society's sponsorship of regional sports medicine clinics in Northern Virginia.

"Of course," he mused, "all is not perfect. There still are high school foothall and basketball games played around the state, especially in rural areas, where a physician is not present . . . but we hope we are laying the groundwork to reduce the numbers of such occasions."

Dr. Nirschl took great pleasure in a concrete manifestation of that growing interest: Of his 12-member committee, ten showed up for a meeting that followed the half-day four-physician seminar at the coaching clinic. "That's the biggest percentage at a meeting since the committee was formed," he observed.

The hour-long committee meeting (with junk food from vending machines the only handy lunch) produced still further evidence of growing sports medicine interest among the medical professionals.

The committee agreed to study between now and the scheduled November meeting of The Medical Society of Virginia in Williamsburg three subjects dealing with sports:

1. Standards, and possible licensing, of athletic trainers.
2. The quality of physical examinations provided for high school athletes.
3. Possible formation of a Virginia Governor's Council on Physical Education.

The Sports Medicine Committee's seminar for the coaches is but one manifestation of the contributions made by all of the 34 committees of The Medical Society of Virginia. On the following pages of this special issue are the annual reports of others of these committees, showing the fruits of study and service.

The Medical Society of Virginia
PROCEEDINGS

Annual Report of the Executive Vice President

IT SEEMS only yesterday, but it was really almost 31 years ago that your Executive Vice President first made The Medical Society of Virginia a very integral part of his life. The years have gone by all too quickly, each one a separate and exciting chapter in the history of a great medical organization.

How basic and uncomplicated were those first years—no major problems, although the proponents of government medicine were hard at work even then. And "malpractice" was only a word in the dictionary—one we used as little as possible. Actually, there was little need to use it at all.

And how about political action? Well, medicine is a relative newcomer to the political scene, as far as being an effective force is concerned. That is why political action committees—VaMPAC in Virginia—were organized in every state. Now physicians across the land have a mechanism by which they can make their collective voice heard in the political strongholds of the nation.

Legislation was not always the area of intense interest and activity that it is today. We remember so well when the General Assembly found it necessary to devote only a very small part of its time to matters pertaining to medicine and health. When it did, it was ably assisted by no less than five—and sometimes six—physician legislators. How times have changed!

Then along came continuing medical education, and physicians everywhere became increasingly aware of the importance of keeping up-to-date on scientific development and progress.

As change followed change and new demands became commonplace, the Society found itself caught up in the age of computerization. This took some getting used to, especially for those of us who find it exceedingly difficult to abandon ideas and methods now regarded as "old-fashioned". The clincher, however, was the steady growth in membership—from barely 2,000 in 1950 to well over 6,000 in 1980!

Perhaps the most noteworthy event of recent years was the development and implementation of a program known all over the nation as Vanguard—another Virginia first. Vanguard was born of necessity in the 70s and will undoubtedly continue to grow in strength and vitality throughout the 80s. It is a program designed for action and reaction and is the most effective instrument yet devised to monitor the multitude of government programs afoot in our land.

The Medical Society of Virginia enters the 1980s fully aware of the challenge and the task that lie ahead. There is no doubt whatever in our minds but that it is equal to that task.

Let us now take a quick look at our Society from an administrative point of view.

President and Council

No matter how well trained and disciplined an army may be, it is pitifully ineffective without strong and capable leadership. Battles—indeed, wars themselves—have been lost because leadership was lacking when moments of decision were at hand.

The past 12 months have required many key decisions by Society leadership, and we were indeed blessed to have Dr. George Nipe in the presidential chair. Dr. Nipe was cast in the same mold that has produced Virginia's greatest medical statesmen; his record provides ample testimony to his ability to get the job done, no matter how difficult.

There were times when lesser men would have broken off the engagement and left the field, but this President has never known the meaning of surrender. He has won the admi-

ration and gratitude of those around him by his unswerving determination to do the right thing as he sees it, nothing else being acceptable to him. Surely this explains why your Society has been able to withstand successfully the unbelievable and unprecedented pressures of an unbelievable and unprecedented year. Once again our Society had the right President at the right time.

Council will have met on five occasions by the time of the annual meeting and its report to the House is one of accomplishment. These are dedicated men who find their reward in the satisfaction of providing the physicians of Virginia a very great service.

Membership

There is only one word that can adequately describe the Society's membership growth—incredible! There are many good reasons why this growth shows no signs of abating. Physicians are realizing more and more that their profession is under fire and that the only way to win a war is through united action. Also, more segments of the profession are becoming involved, especially medical students. And, of course, the tangible benefits of membership continue to increase. Add all this and more to the efforts of an active Membership Committee and the results speak for themselves.

Annual Report, Membership

August 1, 1979—July 31, 1980

August 1, 1979		6,033*
New Members	586	
Reinstated	37	
	623	
Deaths	49	
Resigned	90	
Dropped	184	
	323	
Net Increase		300
July 31, 1980		6,333*

* Includes student members

Membership in the American Medical Association also continues to increase. The current total of 3,400 means that we are closing in on our fifth AMA delegate. That goal will be reached the minute we obtain AMA member No. 4,000.

Personnel

We take this occasion to welcome Mrs. Mary Evans to our staff. Mrs. Evans will assist Mrs. Gray with VIRGINIA MEDICAL and has the distinction of becoming the thirteenth member of our staff, a very lucky occurrence for all of us.

Although we have mentioned it before, we would again like to point out that your Society has the smallest staff of any major medical association in the nation, a fact of which we are very proud. We can remember so well when our membership was barely 2,000, and our staff added up to a grand total of four. What a difference 30 years can make! The role of the state medical society today is very different, and the overall operation has become detailed, complex and sophisticated to a degree.

How is it that The Medical Society of Virginia has been able to carry out its responsibilities with the nation's smallest staff? The answer can be found in the following list of highly qualified and dedicated individuals who do indeed deserve our sincere thanks and appreciation: Mrs. Brown, Mrs. Candler, Mrs. Ambrose, Mrs. Gray, Mrs. Renalds, Mrs. Strawderman, Mrs. Stockmar, Dr. Nelson, Mr. Moore, Mr. Osburn and Mr. Varmette.

Finances

Fiscal 1979-1980 has, without any doubt, been the most expensive year in the Society's long history. The reasons are not difficult to find. Inflation has affected medical societies the same as other professional and business institutions. Legal expenses have been substantial as a result of anti-trust actions, which included The Medical Society of Virginia among the defendants. The complete financial story will be found in the Auditor's annual report, a portion of which will be published in a future VIRGINIA MEDICAL.

Even though this has been a high-cost year, your Society remains financially sound and stable. While our methods and procedures have changed over the years, our basic philosophy concerning fiscal matters remains the same as it has for the past 30 years. We will continue to strive to eliminate potential waste and unjustified expense whenever and wherever we find them. We will continue to review and reassess our mission and priorities and make our recommendations known to Council and the House.

The membership will be pleased to learn that our Finance Committee is staying right on top of things and will have met on two occasions by annual meeting time. We have no hesitancy in saying that the financial affairs of your Society are in good and capable hands.

Virginia Medical

Our official publication continues to get better and better. Not only is it an excellent scientific journal but a valuable and timely news source as well. The August issue introduced a new feature entitled "From the Virginia Medical News Bureau", which was created by Mrs. Gray and is entirely written by her. Judging from comments already received, it has proved an instant hit.

Producing an award-winning publication month after month is not easy, to say the least. The fact that it requires a special kind of expertise is known by everyone, but we doubt if many are aware of the unbelievable long and dedicated hours which go into each and every issue.

There is more to editing a publication like the VIRGINIA MEDICAL than putting the various articles, ads, calendars, letters, etc., in an attractive, readable form. There is

also a cost factor that must always be considered. VIRGINIA MEDICAL is no different than other journalistic endeavors: Its future is dependent on its ability to stay as close to the break-even point as possible. Our Editors are fully aware of this fact and do everything possible to keep publication costs down.

Meetings

Although we are not certain how it happened, we are pleased to report that there was no increase in the number of meetings attended by representatives of the Society during the past 12 months. We have, over the years, lamented the fact that meetings are somewhat like taxes—they continue to grow in size and number. Perhaps, however, by being as selective as possible, we can keep this part of our operation within reasonable limits.

Among the meetings attended were both sessions of the American Medical Association's House of Delegates, AMA National Leadership Conference, two sessions of the state Board of Medicine, 4-H Club Health Awards ceremony, Conference of State Society Presidents, Health Service Agency meetings, annual congressional luncheon, four neighboring state medical society annual meetings, and a number of component society meetings. In addition, your Society acted as host for a Conference of Middle Atlantic Medical Societies.

The Future

Make no mistake about it, things will undoubtedly get worse before they get better. No matter how much we might wish otherwise, medicine has few friends in Washington. This sad fact of life is made even worse by a faltering economy. Bureaucrats must have someone to blame—particularly since they never make mistakes—and the physician has for some time been one of their more popular whipping boys. Although the voluntary effort to control the cost of medical care is doing very well, the pundits of Washington refuse to give credit where credit is due.

The specter of national health insurance continues to haunt the world's finest health care system—and will continue to do so in a somewhat indefinite future. The fact that this is a critical election year doesn't help the situation.

There is no way any of us can avoid or long escape the changes wrought by time. Changes come in many ways—some quick and sudden and others in a manner so subtle that they are a part of our lives before we are really aware of them. We must, therefore, remain ever vigilant and prepare ourselves for any eventuality. It is for this reason that Vanguard must add to its responsibilities that of being medicine's "dew line"—our own early warning system. Only in this way can medicine, as we know it, survive.

Robert I. Howard
Executive Vice President

AMA Delegates

The Medical Society of Virginia was once again represented by its full delegation at both the Interim and Annual Meetings of the AMA House of Delegates. The President also attended both meetings and the President-Elect was on hand for the annual sessions in Chicago.

Although both meetings were extremely interesting and productive, it was the Annual Meeting in July which really drew the most attention and certainly the most headlines. The House was called upon to make some of the most important decisions in the Association's long history and the impact of its actions will be felt for a very long time.

Of the 249 pieces of business considered, the one proposing a revision of the Principles of Medical Ethics created the biggest stir. The revision was adopted by more than a two-thirds vote—the first such action since 1957.

Virginia physicians will be particularly interested in the House action that called for continued support of voluntary continuing medical education and requested state societies to support a moratorium on additional mandatory CME and mandatory recertification programs.

Two resolutions were introduced by your Virginia delegation, and both were accorded favorable action. One requested the AMA Council on Medical Service to delineate the roles, duties and functions in appropriateness reviews of professional standards review organizations and health system agencies. The other directed AMA to continue its efforts in seeking the removal of any and all reference to non-federal hospitals from the proposed Office of Management and Budget memorandum of 17 June 1980 regarding federal support for hospital construction.

Space does not permit a detailed report of the many other important actions of the House, and we urge each member to review the proceedings as published in the *American Medical News.* We should never lose sight of the fact that AMA remains the strongest and most effective medical organization in the world. It deserves our full support and participation.

Michael A. Puzak, MD,
Chairman, Virginia Delegation



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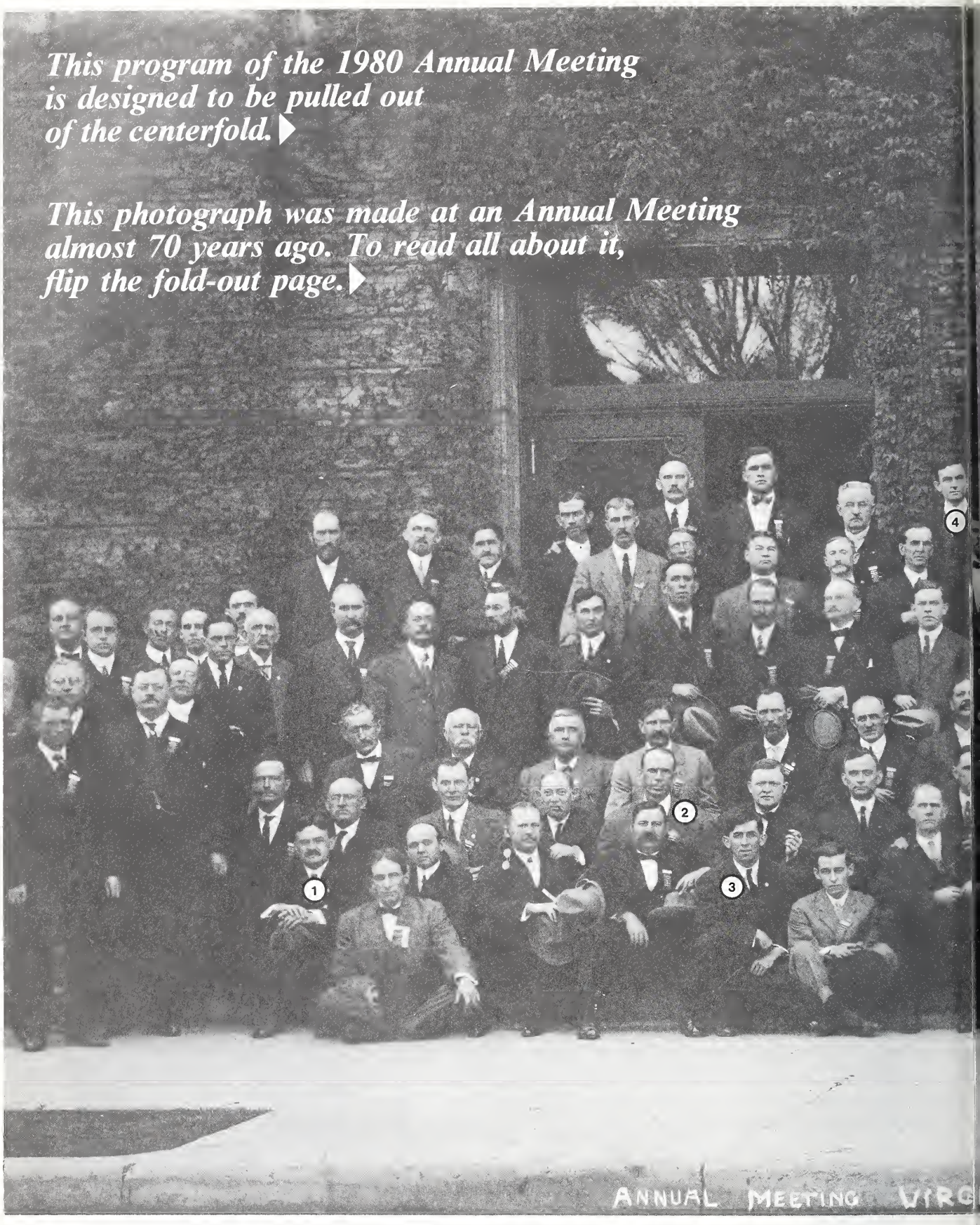
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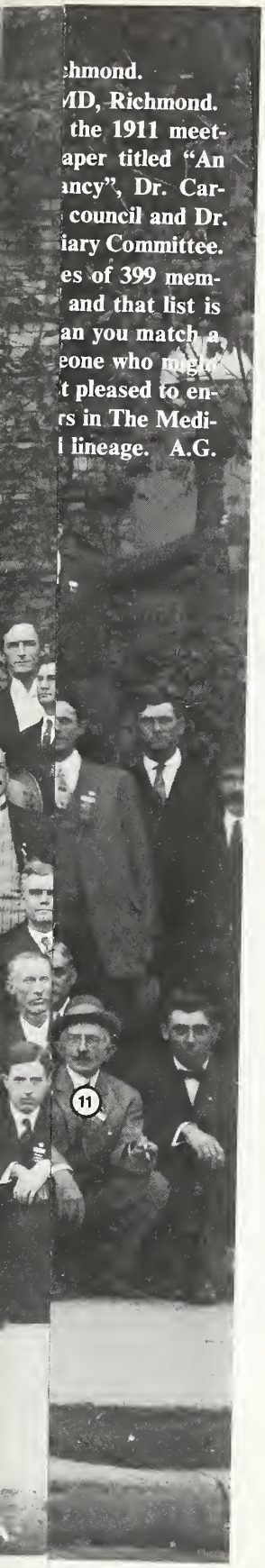
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This program of the 1980 Annual Meeting is designed to be pulled out of the centerfold.

This photograph was made at an Annual Meeting almost 70 years ago. To read all about it, flip the fold-out page.





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r. Hugh S. Cumming,
r. H. Wythe Davis,
r. John S. Davis,
r. R. A. Davis,
r. R. F. Davis,
r. M. Price Deboe,
r. J. L. Deitrick,
r. J. Beverly DeShazo,
r. S. W. Dickinson,
r. B. L. Dillard,
r. William F. Drewry,
r. E. A. Drum,
r. C. R. Dufour,
r. J. H. Dunkley,
r. W. W. Dunn,
r. L. S. Early,
r. Charles M. Edwards,
r. Robt. L. Edwards,
r. L. L. Eley,
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r. N. Thomas Ennett,
r. E. E. Epperson,
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Dr. R. S. Griffith,
Dr. St. Geo. T. Grinnan,
Dr. G. A. Grizzard,
Dr. T. A. Gunn,
Dr. Frank W. Hains,
Dr. George P. Hamner,
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Dr. J. Hampton Hare,
Dr. Mary Harley,
Dr. Stephen Harnsberger,
Dr. George Tucker Harrison,
Dr. Virginius Harrison,
Dr. W. F. Hartman,
Dr. L. E. Harvie,
Dr. Ira J. Haynes,
Dr. Chas. M. Hazen,
Dr. Oscar E. Hedrick,
Dr. T. B. Henderson,
Dr. T. S. Hening,
Dr. H. C. Henry,
Dr. J. W. Henson,
Dr. A. L. Herring,
Dr. M. B. Hiden,
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Dr. B. L. Hillsman,
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Dr. Lewis Holladay,
Dr. Wm. M. Holladay,
Dr. R. G. Hollaway,
Dr. W. M. Holman,
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Dr. J. S. Horsley,
Dr. P. W. Howle,
Dr. H. H. Howlett,
Dr. Anne Humphreys,
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Dr. James H. Hurst,
Dr. J. H. Hutcheson,
Dr. James S. Irvin,
Dr. Paulus A. Irving,
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Dr. A. Jeffrey,
Dr. George Ben Johnst
Dr. Clarence Porter Jc
Dr. J. Bolling Jones,
Dr. J. F. Jones,
Dr. J. H. Jones,
Dr. Wm. Russell Jones,
Dr. S. R. Jordon,
Dr. H. W. Judd,
Dr. B. C. Keister,
Dr. Jas. L. Kent,
Dr. R. L. Kern,
Dr. A. J. Koontz,
Dr. D. A. Kuyk,
Dr. Chas. A. Labenberg
Dr. J. B. Lacy,
Dr. B. Lankford,
Dr. G. Paul LaRoque,
Dr. Thomas B. Latane,
Dr. R. R. Lee,
Dr. Southgate Leigh,
Dr. E. C. Levy,
Dr. Henry H. Levy,
Dr. J. Newton Lewis,
Dr. Samuel Lile,
Dr. M. B. Linkous,
Dr. P. D. Lipscomb,
Dr. John L. Lloyd,
Dr. Lucien Lofton,
Dr. F. K. Lord,
Dr. H. Stuart MacLean
Dr. H. B. Mahood,
Dr. F. N. Mallory,
Dr. D. M. Mann,
Dr. Herbert Mann,
Dr. Samuel W. Maphis,
Dr. Chas. D. Marchant.
Dr. D. Hunter Marrow
Dr. A. A. Marsteller,
Dr. B. H. Martin,
Dr. C. E. Martin,
Dr. George B. Martin,
Dr. M. S. Martin,
Dr. Rawley W. Martin,
Dr. H. N. Mason,
Dr. D. C. Mayes,
Dr. Ross S. McElwee,
Dr. Edward P. McGavo
Dr. E. L. McGill,

This program of the 1980 Annual Meeting is designed to be pulled out of the centerfold. ▶

This photograph was made at an Annual Meeting almost 70 years ago. To read all about it, flip the fold-out page. ▶



SINCE 1820 The Medical Society of Virginia has held annual meetings, although not uninterruptedly. The War Between the States swept them aside, and there were earlier lapses, so that the session heralded in this issue is tallied as the 133rd.

About midway in the Society's history, at the meeting in 1911, the members attending gathered for a photograph, and here it is, showing the doctors at the north entrance to the Hotel Jefferson in Richmond.

This photograph was found in the effects of the late Joseph Long Alexander, MD, whose son, J. K. Alexander of Staunton, kindly offered it to VIRGINIA MEDICAL.

No identifying roster was preserved with the photograph, and the only sure identification is that of Dr. Alexander himself, to which the Editors have added some educated guesses made by those of long memory who have studied the photograph:

1. Charles Russell Robins, MD, Richmond.
2. Joseph Long Alexander, MD, Staunton.
3. Harry William Porter, MD, Louisa.
4. Hugh McGuire, MD, Alexandria.
5. A. Murat Willis, MD, Richmond.
6. George Paul LaRoque, MD, Richmond.
7. William T. Oppenhimer, MD, Richmond.
8. Stephen Hurt Watts, MD, Charlottesville.
9. Otho C. Wright, MD, Jarratt, President.
10. Benjamin W. Rawles, MD, Richmond.
11. Charles Venable Carrington, MD, Richmond.

According to the *Transactions* for the 1911 meeting, Dr. Oppenhimer presented a paper titled "An Unusual Case of Abdominal Pregnancy", Dr. Carrington was serving on the executive council and Dr. McGuire was nominated to the Judiciary Committee.

The *Transactions* also list the names of 399 members who attended the 1911 meeting, and that list is reproduced on the following pages. Can you match a name with a face? Do you know someone who might be able to? The Editors would be most pleased to enlarge our cognizance of these forebears in The Medical Society of Virginia's distinguished lineage. A.G.

Dr. T. K. McKee,
Dr. W. T. McLemore,
Dr. Edward McGuire,
Dr. Hugh McGuire,
Dr. H. H. McGuire,
Dr. Stuart McGuire,
Dr. R. T. McNair,
Dr. Donald McPhail,
Dr. M. E. Mease,
Dr. C. W. Mercer,
Dr. W. F. Mercer,
Dr. Wm. Meridith,
Dr. J. A. Meriweather,
Dr. Jacob Michaux,
Dr. Stuart Michaux,
Dr. Casper O. Miller,
Dr. Clifton M. Miller,
Dr. P. L. Moncure,
Dr. Powhatan Moncure,
Dr. E. H. Moore,
Dr. Ray R. Moore,
Dr. A. B. Moore,
Dr. T. W. Murrell,
Dr. G. H. Musgrave,
Dr. E. J. Moseley, Jr.,
Dr. J. Coleman Motley,
Dr. William P. Mathews,
Dr. B. A. Middleton,
Dr. W. O. McCabe,
Dr. W. P. Marks,
Dr. J. Garnet Nelson,
Dr. McGuire Newton,
Dr. R. Angus Nichols,
Dr. M. E. Nuckols,
Dr. St. J. Oppenhimer,
Dr. W. F. Oppenhimer,
Dr. Herbert Old,
Dr. R. L. Page,
Dr. G. G. Painter,
Dr. Alfred B. Palmer,
Dr. M. D. Parham,
Dr. J. A. Patterson,
Dr. R. L. Payne,
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Dr. W. B. Payne,
Dr. P. D. Pence,
Dr. W. L. Peple,
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Dr. W. B. Pettit,
Dr. M. Peyser,
Dr. Z. G. Phipps,
Dr. W. A. Plecker,
Dr. H. W. Porter,
Dr. W. C. Powell,
Dr. F. C. Pratt,
Dr. Robt. S. Preston,
Dr. R. H. Pretlow,
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Dr. William D. Prince,
Dr. J. J. Purdy,
Dr. Alvah Ramsey,
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Dr. W. B. Robinson,
Dr. G. C. Rodgers,
Dr. B. M. Rosebro,
Dr. George Ross,
Dr. B. W. Rawles,
Dr. L. Royster,
Dr. E. T. Rucker,
Dr. M. P. Rucker,
Dr. Kirkland Ruffin,
Dr. Emily C. Runyon,
Dr. H. B. Sanford,
Dr. D. P. Scott,
Dr. Powhatan S. Schenck,
Dr. H. L. Segar,
Dr. W. W. Seward,
Dr. J. M. Shackelford,
Dr. A. R. Shands,
Dr. W. A. Shepherd,
Dr. Z. V. Sherrill,
Dr. F. G. Simmons,
Dr. R. H. Sims,
Dr. Julian W. Sloan,
Dr. W. H. St. Claire,
Dr. H. U. Stephenson,
Dr. C. Mason Smith,
Dr. Jas. H. Smith,
Dr. O. M. Smith,
Dr. P. T. Southall,
Dr. G. W. Stark,
Dr. Fred S. Steere,
Dr. H. A. Stephenson,
Dr. Isaac S. Stone,
Dr. W. J. Sturgis,
Dr. M. C. Sycle,
Dr. J. H. M. Sykes,
Dr. B. L. Taliaferro,
Dr. R. M. Taliaferro,
Dr. Daniel D. Talley,
Dr. H. G. Tarter,
Dr. Hugh M. Taylor,
Dr. H. C. Tabb,
Dr. E. H. Terrell,
Dr. W. D. Tewksbury,
Dr. John D. Thomas,
Dr. John A. Tipton,
Dr. E. L. Tompkins,
Dr. George J. Tompkins,
Dr. James McCaw Tompkins,
Dr. D. W. Trice,
Dr. E. T. Trice,
Dr. Beverly R. Tucker,
Dr. Chas. C. Tucker,
Dr. P. E. Tucker,
Dr. R. D. Tucker,
Dr. Fenton B. Turck,
Dr. A. E. Turman,
Dr. John W. Turman,
Dr. William D. Turner,
Dr. Francis W. Upshur,
Dr. J. N. Upshur,
Dr. Douglas Vanderhoff,
Dr. G. R. Vanderslice,
Dr. George Tulley Vaughan,
Dr. J. E. Vaughan,
Dr. L. O. Vaughan,
Dr. Walter E. Vest,
Dr. J. W. Walters,
Dr. J. C. Walton,
Dr. J. H. Walton,
Dr. J. E. Warriner,
Dr. Stephen H. Watts,
Dr. C. S. Webb,
Dr. A. L. Wellford,
Dr. W. J. West,
Dr. S. E. Weymouth,
Dr. J. A. White,
Dr. R. H. Whitehead,
Dr. O. H. Whitlock,
Dr. Leslie B. Wiggs,
Dr. E. G. Williams,
Dr. J. W. Williams,
Dr. Tom A. Williams,
Dr. W. R. Williams,
Dr. A. Murat Willis,
Dr. B. C. Willis,
Dr. F. D. Willis,
Dr. R. E. Wine,
Dr. J. B. Wingfield,
Dr. J. H. Winfrey,
Dr. A. L. Wingfield,
Dr. Peter Winston,
Dr. F. S. Woolfork,
Dr. J. C. Woodson,
Dr. F. J. Wright,
Dr. J. A. Wright,
Dr. O. C. Wright,
Dr. R. H. Wright,
Dr. L. B. Yancey,
Dr. R. J. Yates.

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Aging

Recommendations

1. The Committee members should work closely with agencies in their area and encourage their colleagues to do likewise.

The Committee has prepared and distributed to its members a map of the state showing the location of various area agencies significant to the care of the elderly.

2. Physicians should assist in the effort to maintain elderly patients in their home environments, thereby reducing the number of such patients in mental health facilities. State funding might well be considered in such an effort.

The Committee is concerned over the increasing number of elderly in state facilities. It was agreed that there does exist a need for more proper care at home and more effective utilization of local clinics. In this connection, each Committee member was urged to personally contact agency directors in their areas and provide as much assistance as possible.

General

The Committee on Aging held only one meeting during the year. That meeting was highlighted by a review of the Governor's Conference on Aging and presentations by Dr. Leo Kirven, Commissioner of Mental Health and Mental Retardation, and Ms. Margaret Cavey, RN, Acting Assistant Commissioner of Mental Health. Dr. Kirven and Ms. Cavey discussed programs for the aging, including HSA boundaries, geriatric facilities, geriatric preadmission instructions, program treatment centers, preadmission policies and procedures of state mental health facilities, and community programs designed to meet the needs of the elderly.

The Committee will very likely meet again prior to the Annual Meeting and will at that time concern itself with the various hospice programs in the state.

Donald T. Faulkner, MD,
Chairman

Auxiliary Advisory

The auxiliary was off to a flying start last November, and eight months later has already accomplished a year's work.

There were some "firsts" for the auxiliary this year:

• A second generation state president.

• An educational program for spouses on alcoholism was arranged in conjunction with the auxiliary's annual mid-year Board of Directors meeting in March.

• A new auxiliary was organized in March in Patrick Henry County, the first in 14 years. Augusta County has also been granted permission for organizing an auxiliary.

• The auxiliary's contribution to the American Medical Association Education Research Foundation has already surpassed the previous year's total by $10,000, making the 1980 total to date $40,137.64.

• A traveling exhibit was purchased by the Auxiliary to be used by the counties in schools, colleges, health fairs and other health education functions in their communities. The large charts are accompanied with handouts on "The Medical Benefits of Exercise" and "Facts about Obesity".

These are a few of the "firsts" for this year. Equally important is the fact that ongoing programs have continued to grow.

Membership. The Auxiliary has 1,984 members, an increase of 80 members in the past year. The dream of 2,000 members should become a reality by this November. With the increase, the Auxiliary will be entitled to a seventh delegate to the AMA Auxiliary House of Delegates in June, 1981. The largest increase by percentage among the

Members Attending
The Medical Society of Virginia's
Annual Meeting October 24-27, 1911, Richmond

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Dr. Geo. T. Harrison,
Dr. Lewis E. Harvie,
Dr. Geo. Ben Johnston,
Dr. Stuart McGuire,
Dr. Rawley W. Martin,
Dr. Jacob Michaux,
Dr. A. R. Shands,
Dr. Geo. Tully Vaughan,

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Dr. William E. Anderson,
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Dr. W. V. Atkins,
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Dr. Henry T. Bahnson,
Dr. J. B. Bailey,
Dr. H. L. Baptist,
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Dr. B. Barrow,
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Dr. E. W. Baxter,
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Dr. J. M. Shackelford,
Dr. A. R. Shanos,
Dr. W. A. Shephero,
Dr. Z. V. Sherrill,
Dr. F. G. Simmons,
Dr. R. H. Sims,
Dr. Julian W. Sloan,
Dr. W. H. St. Claire,
Dr. H. U. Stephenson,
Dr. C. Mason Smith,
Dr. Jas. H. Smith,
Dr. O. M. Smith,
Dr. P. T. Southall,
Dr. G. W. Stark,
Dr. Fred S. Steere,
Dr. H. A. Stephenson,
Dr. Isaac S. Stone,
Dr. W. J. Sturgis,
Dr. M. C. Sycle,
Dr. J. H. M. Sykes,
Dr. B. L. Taliaferro,
Dr. R. M. Taliaferro,
Dr. Daniel D. Talley,
Dr. H. G. Tarter,
Dr. Hugh M. Taylor,
Dr. H. C. Tabb,
Dr. E. H. Terrell,
Dr. W. D. Tewksbury,
Dr. John D. Thomas,
Dr. John A. Tipton,
Dr. E. L. Tompkins,
Dr. George J. Tompkins,
Dr. James McCaw Tompkins,
Dr. D. W. Trice,
Dr. E. T. Trice,
Dr. Beverly R. Tucker,
Dr. Chas. C. Tucker,
Dr. P. E. Tucker,
Dr. R. D. Tucker,
Dr. Fenton B. Turck,
Dr. A. E. Turman,
Dr. John W. Turman,
Dr. William D. Turner,
Dr. Francis W. Upshur,
Dr. J. N. Upshur,
Dr. Douglas Vanoerhoff,
Dr. G. R. Vanderslice,
Dr. George Tulley Vaughan,
Dr. J. E. Vaughan,
Dr. L. O. Vaughan,
Dr. Walter E. Vest,
Dr. J. W. Walters,
Dr. J. C. Walton,
Dr. J. H. Walton,
Dr. J. E. Warriner,
Dr. Stephen H. Watts,
Dr. C. S. Webb,
Dr. A. L. Wellford,
Dr. W. J. West,
Dr. S. E. Weymouth,
Dr. J. A. White,
Dr. R. H. Whitehead,
Dr. O. H. Whitlock,
Dr. Leslie B. Wiggs,
Dr. E. G. Williams,
Dr. J. W. Williams,
Dr. Tom A. Williams,
Dr. W. R. Williams,
Dr. A. Murat Willis,
Dr. B. C. Willis,
Dr. F. D. Willis,
Dr. R. E. Wine,
Dr. J. B. Wingfield,
Dr. J. H. Winfrey,
Dr. A. L. Wingfield,
Dr. Peter Winston,
Dr. F. S. Woolfork,
Dr. J. C. Woodson,
Dr. F. J. Wright,
Dr. J. A. Wright,
Dr. O. C. Wright,
Dr. R. H. Wright,
Dr. L. B. Yancey,
Dr. R. J. Yates.

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counties this year was in Virginia Beach.

AMA-ERF. Twenty-one of the 22 organized counties, plus a state project and a contribution of $1,000 from The Medical Society of Virginia, share the credit for the record $40,137.64 raised this year for AMA-ERF. The per capita contribution for the Auxiliary was $20.45. Northampton-Accomack won an honorable mention at the AMA Auxiliary meeting for the county with the highest per capita contribution in the Eastern Region—$53.76.

National recognition came this year to two Virginia auxilians at the AMA Auxiliary meeting in Chicago: Mrs. William J. Reardon was elected vice-president of the AMAA's Eastern Region and Mrs. Charles G. Smith was elected to the AMAA Nominating Committee.

Auxiliary members are not merely busy people, they are productive. Their contributions to their communities and to organized medicine deserve our warmest praise. From the vantage point of "the husband of the President," I should know.

Charles G. Smith, MD,
Chairman

Bylaws

The Bylaws Committee recommends that Section 3 of the Articles of Incorporation be amended by

• adding after the first sentence of the fourth paragraph, "Dues for active members who are interns, residents or fellows in approved programs in Virginia may be set at an amount which is less than the dues for other active members";

• deleting the eighth paragraph and substituting, "Graduate active membership may be granted to any applicant who is a doctor of medicine or osteopathy and who is serving in an internship, residency or fellowship in an approved program in Virginia. Graduate active members shall not pay dues, nor shall they vote or hold office or serve on standing committees, but shall be entitled to all other privileges of membership."

K. K. Wallace, Jr.,
Chairman

Cancer

Recommendations

1. That The Medical Society of Virginia endorse the cancer program of the Commission on Cancer of the American College of Surgeons and encourage all hospitals to develop and seek approval for such programs, as well as participating in the Virginia Tumor Registry.

The objective is to have the hospitals actually go through the review process for approval. The Virginia Tumor Registry is a separate operation from the approvals program, although achieving the standards of the approvals program of the American College of Surgeons will place the hospital in an advantageous position for joining with the state-supported Tumor Registry.

2. That the Program Committee expand the present annual meeting cancer format with something more informal at the time of the meeting, such as a presentation of a series of problem cases of some form of cancer that would allow a discussion by both panel members and audience participants.

This recommendation evolved from a discussion by representatives of the cancer programs at the major medical centers in Virginia.

3. That all physicians support screening and detection programs designed to promote the diagnosis of cancer at an early stage.

General

The Cancer Committee at its meeting also heard an appeal for more detailed completion of death certificates by physicians; continued its investigation of whether or not cancer should be a reportable disease and, if so, how to implement such a program; discussed the hospice program, with particular reference to its manifestations throughout the state. A round of applause for a job well done in his many years of service was voted to Mr. Bernard Woodahl, who retired in June as the executive vice president of the American Cancer Society, Virginia Division.

William W. Old, III, MD,
Chairman

Education

The Committee on Continuing Medical Education met in Richmond on September 15, 1979; at Hot Springs at the Annual Meeting of The Medical Society of Virginia in November 1979; and in Richmond on February 15, 1980, jointly with the Membership Committee on March 22, and on May 31, 1980.

Subcommittees

At the organizational meeting on February 15, 1980, the chairman named to the Certification Subcommittee, Hugh H. Willis, Carl E. Stark, Herman H. Pinkerton, Jr., Theron H. Haas, Oscar A. Thorup, Jr., Co-Chairman, and James S. Kitterman, Chairman; and to the Accreditation Subcommittee, John H. Guss, Reuben B. Young, Thomas E. O'Brien, Michael D. Lieberman, John N. King, Elmore J. Becker, T. Eugene Temple, Jr., Co-Chairman, and Charles H. Crowder, Jr., Chairman.

Accreditation

The Committee approved the recommendations of the survey teams and the Accreditation Committee, giving provisional accreditation for one year to the Potomac Hospital in Woodbridge and the Community Hospital of Roanoke Valley in Roanoke.

The Speaker Reports Procedural Changes

Over the last several years some adjustments have been made in the manner in which the House of Delegates of The Medical Society of Virginia conducts its business. This has been done with the goal of accomplishing more expeditiously the duties of the House as the policy-establishing body of the Society, while preserving the opportunity for adequate participation by our officers, delegates and members. This year there will be additional changes, which we trust will result in further improvement.

There is a new format to the committee reports. This is designed so that the recommendations—the business the committee wishes accomplished—are highlighted and readily identifiable. These are supported by brief explanations and followed by additional comments.

The schedule of the reference committee hearings has been changed. Two reference committees will conduct their hearings in the morning and two in the afternoon. These will be placed as early in the morning and as late in the afternoon as possible, leaving the middle of the day free. This change is in part necessary because of the lack of available appropriate meeting space.

The increase from three to four reference committees will require less commitment from those serving and will give more members the opportunity to be on one of the committees. This also will make it easier for those who wish to attend multiple hearings.

In addition to its other work, the House will consider broad change in the entire annual meeting format.

K. K. Wallace, Jr., MD,
Speaker, House of Delegates

The split continues between the AMA and the other organizations which comprised the former Liaison Committee on Continuing Medical Education. Thus there are two national accrediting bodies, the AMA through its Committee on Accreditation of CME, and the present LCCME, consisting of representatives from the American Board of Medical Specialities, American Hospital Association, Association for Hospital Medical Education, Association of American Medical Colleges, Council of Medical Specialty Societies and Federation of State Medical Boards.

At its February 2, 1980, meeting the Council of The Medical Society of Virginia voted to align with the AMA and not the LCCME. As directed, these organizations were so notified.

The AMA Committee on Accreditation has decided that the state medical societies will accredit (or not, as the case may be) the organizations within the state and notify the AMA Committee of their decisions. The LCCME has a similar program. At its April 26, 1980 meeting Council ruled that CME credits awarded by the LCCME would also meet the requirements of The Medical Society of Virginia.

The accredited organizations in Virginia are:

- Community Hospital of Roanoke Valley, Roanoke
- Department of Health, Commonwealth of Virginia
- Eastern Virginia Medical School, Norfolk
- Eastern Virginia Inter-Hospital Medical Education Committee, Norfolk, 21 hospitals
- Fairfax Hospital Consortium, Falls Church, 3 hospitals
- Gill Memorial Hospital, Roanoke
- Medical College of Virginia/VCU, 19 affiliates, plus 11 in Southwest Virginia jointly with UVa
- Medical Society of Virginia Scientific Program
- Memorial Hospital, Danville
- Northern Virginia Consortium, 6 hospitals and 9 affiliated institutions and organizations
- Potomac Hospital, Woodbridge
- Riverside Hospital, Newport News
- Roanoke Memorial Hospital, Roanoke
- St. Luke's Hospital Consortium, Richmond
- University of Virginia School of Medicine, 10 affiliates, plus the above 11 jointly with MCV/VCU
- Winchester Memorial Hospital, Winchester

At least 71 of the 108 hospitals in the state are accredited or have programs sponsored by an accredited organization, making CME readily accessible to Virginia's physicians.

Certification

As of August 5, 1980, 519 physicians hold the Virginia Physicians Recognition Award and 1895 Virginia physicians have the AMA-PRA.

The House of Delegates, at a special meeting in Richmond on September 17, 1977, decided that membership in the Society after January 1, 1979 would depend on the completion "of a minimum of ninety hours of approved continuing medical education (CME) each three year reporting period . . .", and that "one-third of the number of hours of CME . . . achieved in any report period must qualify as Category 1 hours . . . . The balance of the hours may be distributed among Categories 2 to 6 . . ."

In order to implement the program, those members whose last names begin with the letters A through G were required to get 10 hours of Category 1 and 20 hours of other category credits, or all 30 hours in Category 1, in calendar year 1979. Compliance was to be reported by March 1, 1980.

The status of individual members is the responsibility of the Membership Committee. A joint meeting of the Education and Membership Committees to maintain liaison was held in Richmond, March 22, 1980.

There were 2,130 members in the first reporting group. By March 1, 670 had reported, and by April 1, 1,616 had reported. Two mailings with return postcards, 150+ telephone calls, personal contacts by the district vice councilors who make up the Membership Committee, and a third mailing of registered letters reduced the delinquent group to seven in Virginia (active members) and two out-of-state (associate members) who have not reported and eight who have not complied, for a total of 17.

On July 20, 1980 the AMA House of Delegates passed the following resolution: "Resolved, that the AMA request the cooperation of all specialty societies and state medical societies in supporting a moratorium on all additional mandatory continuing education or any mandatory reexamination or recertification programs, pending evidence of their effectiveness in upgrading the competence of physicians."

CME Questionnaire

At its June 28, 1980, meeting Council approved the use of a questionnaire which had been adapted by Paul Masmanian, PhD, of the MCV School of Medicine Department of CME, and Dr. Kinloch Nelson, from one used by the AMA on a sample of physicians over the country.

The proposed questionnaire had been reviewed and approved item by item at the Education Committee meeting on May 31, 1980.

It requires about 6½ minutes to complete. Its purposes are to determine the forms and amount of CME used by Virginia's physicians, the cost to them, their perception of its quality, and their preferences for CME methods and sources. The questionnaire will be distributed in the fall to all physicians in Virginia and is the first study of its kind undertaken by a state medical society. The responses (40-50% expected) will be analyzed and the conclusions reported early in 1981. The cooperation of the membership is requested.

The Committee once again wishes to remind all of those planning programs to contact the CME office at The Medical Society of Virginia to clear dates of meetings planned in their areas and to register their dates for the benefit of those who call subsequently. Many conflicts around the state could be avoided through the use of the MSV office as a clearing house. Conflicting dates are equally frustrating for the physicians who may want to attend two different meetings and for those planning CME programs.

The Committee's long-range tasks are to find the best methods of identifying CME needs, setting objectives and evaluating the end results. Particularly important is the relationship of CME to the broader goal of maintaining physician competence, thereby promoting a continuing high quality of care for our patients.

The Committee gratefully acknowledges the invaluable direction provided by Dr. Nelson, the assistance of Mrs. Evelyn Stockmar, the support of Mr. Robert Howard and his staff, and the support of the officers and Council of The Medical Society of Virginia.

Charles L. Crockett, Jr., MD,
Chairman

Ethics

The Ethics Committee held one formal meetings during the year and has no recommendations but wishes to call attention to the action taken by the American Medical Association's House of Delegates on July 22 when it adopted the first revision since 1957 of the Principles of Medical Ethics. The revision was prepared by an ad hoc committee that deliberated for two years and obtained information from medical societies over the nation. In its presentation, the committee stated that the revised principles accurately reflect a proper contemporary ethical stance for the profession, are acceptable to a significant portion of the profession, conform to present legal requirements, are a firm foundation upon which further interpretations and expansions can be built and are strong and patient-oriented.

The revised principles as adopted:

- A physician shall be dedicated to providing competent medical service with compassion and respect for human dignity.
- A physician shall deal honestly with patients and colleagues, and strive to expose those physicians deficient in character or competence or who engage in fraud or deception.
- A physician shall respect the law and also recognize a responsibility to seek changes in those requirements that are contrary to the best interests of the patient.
- A physician shall respect the rights of patients, of colleagues and of other health professionals, and shall safeguard patient confidences within the constraints of the law.
- A physician shall continue to study, apply and advance scientific knowledge, make relevant information available to patients, colleagues, and the public, obtain consultation, and use the talents of other health professionals when indicated.

• A physician shall, in the provision of appropriate patient care, except in emergencies, be free to choose whom to serve, with whom to associate, and the environment in which to provide medical services.

• A physician shall recognize a responsibility to participate in activities contributing to an improved community.

Anthony J. Munoz, MD
Chairman

Grievance

The Grievance Committee met only once in 1980, on February 1. All of the members were present, and the case considered was settled satisfactorily.

The fact that only one case was brought before this Grievance Committee indicates that most of these complaints are being resolved on the local level. Perhaps better communications between patient and physician are helping to reduce the number of grievances.

It is a pleasure to serve The Medical Society of Virginia, and I thank the members of the Grievance Committee for their support.

William H. Hill, MD,
Chairman

Highway Safety

The Highway Safety Committee feels very strongly that the support from The Medical Society of Virginia for a child restraint law was extremely weak. The Society did not go on record as being in favor of child restraint legislation but took a position in favor only of the *concept* of child restraints. In the Committee's view, this position is worse than no opinion at all.

The Committee feels, as it did before, that a child restraint law is necessary in the state of Virginia. In Tennessee, where the law has been in effect since 1978, there is a utilization rate of 23-38%, depending on the city surveyed. Rhode Island has enacted a child restraint law to become effective July 1, 1980.

If physicians in Virginia truly believe in the need for a law requiring children to have smallpox vaccinations prior to entering school, then how can they justify failing to require parents to safeguard their children who are unable to safeguard themselves?

Recommendation

The Highway Safety Committee respectfully requests The Medical Society of Virginia to reevaluate its position and come forth with a strong recommendation that legislation be passed requiring automotive restraints for infants and children.

Robert W. Waddell, MD,
Chairman

Hospital Advisory

The mutual problems of physicians and hospital administrators continue to compel the joint concern and activity of both groups. At our annual meeting with our counterparts of the Virginia Hospital Association, we found a number of significant items on the agenda. The concept of "swing beds"—a newer development of the regulatory milieu and *not*, as some like the chairman though, a federal program to brighten the hospital stays of its beneficiaries-was presented as an adaptation to provide for more efficient utilization. This concept was endorsed by the Committee, and we shall seek support of the Legislative Committee of The Medical Society of Virginia.

Considerable time was devoted to the subject of appropriateness review, a recent planning function of HSAs, in which the elimination of unnecessary services is the apparent goal. We have great concern that such decisions are to be made with minimal contribution from physicians or hospital administrators. We studied in detail the proposal of the Rockingham-Harrisonburg Chamber of Commerce which aims at a moratorium or outright repeal of appropriateness review. Our decision was to refer the matter to our Legislative Committee.

Mr. Allen Goolsby advised us of attempts underway in the General Assembly to modify several immunity statutes. One area under scrutiny concerns the capability of PSROs to be the reporting agencies of alleged physician incompetence to the State Board of Medicine.

Very lengthy discussion was held on the recurring problem of physician representation on hospital governing boards. A letter from the Danville-Pittsylvania Academy of Medicine was presented and evaluated. After a distillation of various points of view, the Committee reaffirmed its position in support of physician representation on hospital boards without any specific formula for the composition of such bodies.

We were presented with a report of the Virginia Hospital Association malpractice insurance reciprocal program, which indicated that it is doing quite well. This organization, with 70 hospital members, is the leading malpractice carrier in the state and has effected appreciable premium reductions for its members. Commenting on this, Mr. Goolsby indicated that feasibility studies by The Medical Society of Virginia suggest that this concept is a viable one for us.

He also informed us that, effective July 1, 1980, Workmen's Compensation peer review will be activated. Each HSA will have physician committees participating in the review process, with an appeal mechanism to the state Industrial Commission available. It was felt that the peer review approach



At a meeting of the Hospital Advisory Committee: left to right, Dr. Edwin J. Harvie, Jr., Danville; Dr. Robert M. Allen, Falls Church; Dr. Gerald J. Fisher, Alexandria, Chairman; and Dr. T. Winston Gouldin, Norfolk.

was preferable to fee schedules in this area.

Other items of interest were considered. The Willey Commission deliberations on Blue Cross discounts to hospitals and the proposal of a local PSRO to contract with a third-party carrier to review private patient care were discussed. It is believed that these important matters will be considered by The Medical Society of Virginia's Council.

I am very grateful to my colleagues Drs. Robert M. Allen, T. Winston Gouldin and Edwin J. Harvie, as well as Mr. Willard C. Osburn, for their attendance, interest and support for the activities of this important committee.

Gerald J. Fisher, MD,
Chairman

Impaired Physician Study

Recommendations

1. That the study continue under the present Committee or a newly appointed one.

The Committee feels that some mechanism should be implemented through the Society to complement the present Risk Management law and to assist in the rehabilitation of potentially impaired physicians before they are to be reported to the Virginia State Board of Medicine.

Such a committee is thought to be feasible but there are many problems that need further study. Some of the problems are: liability of committee members; confidentiality of committee investigation; possible interference with the risk management statute.

It is suggested that it might be wise to present the program to the Board of Medicine to answer the above questions before it is presented to the House of Delegates.

It was also suggested that all component societies form impaired physician committees to provide assistance in rehabilitation.

General

Virginia is unique in that it has the mandatory reporting requirement (risk management). The Medical Society of Virginia's Mental Health Committee suggested that any program adopted should be within the framework of the risk management statute to complement

its operation. An objective of the program would be to have colleagues approach a physician and try to get him to help himself—parallel the risk management approach. Such an approach might encourage additional opinions from colleagues for the Board of Medicine for further investigation or action.

W. Dimmock Buxton, MD,
Chairman

Insurance

The Insurance Committee does not have any recommendations to the House of Delegates for this Annual Meeting.

The Committee continues to be one of the most active in the Society, having met on several occasions during the year. It has reviewed the nine programs administered by David A. Dyer & Associates, and mailings for each of the plans have been completed over the past 12 months. The toll-free number directly to the administrator's office has been very helpful to the membership.

The Committee also reviewed the Society's Blue Cross-Blue Shield Major Medical Contract, and although there was a slight increase in premium, several additional benefits are now included. The Committee feels that our Plan with Blue Cross-Blue Shield is excellent when compared with state society programs in other states.

Professional liability insurance continues to be the main responsibility of the Committee. There is increasing evidence of a second malpractice crisis. Recent claims experience in Virginia and across the country has not been good and seems to be getting worse. At the time of this report it appears that St. Paul will be authorized by the Commissioner of Insurance to put into effect an increase in rates for basic coverage ($100,000) averaging 20%. A reduction in the rate for excess coverage ($100,000 to $1,000,000) will mean that on the average, the total premium for $1,000,000 in coverage will be increasing about 14%. Significantly greater increases have been noted in other states.

In the past year the Insurance Committee has spent considerable time evaluating the various options available with respect to professional liability insurance. The Commitee has decided that a sustained effort should be made to work out a meaningful dividend plan with St. Paul ensuring that both the premiums paid by our members and

At a meeting of the Insurance Committee: left to right, Dr. Warren C. Hagood, Clover, Chairman; Dr. Emerson D. Farley, Jr., Richmond; Dr. J. William Giesen, Radford; Dr. Vernon L. Cofer, Jr., Norfolk; Dr. Alvin E. Conner, Manassas; and Dr. C. Waldo Scott, Newport News.



the return to St. Paul are fair and reasonable. One of our primary objectives is to have investment income taken into account directly. Another objective is to provide a mechanism to assure the members that the carrier will not profit by over-reserving against claims. Several meetings have been held with representatives of St. Paul and additional meetings are planned.

Warren C. Hagood, MD,
Chairman

Joint Practice

During the past year the Joint Practice Committee met on two separate occasions, with good attendance by the new physician-members. In addition, the co-chairman presented information on the functions of the Committee to the annual meeting of the Virginia Nurses Association in Richmond.

Last year a letter was written to Representative Allman stating that we felt legislation he proposed concerning the Nursing Formulary was premature and needed additional research by the Virginia Nurses Association and The Medical Society of Virginia in regard to this matter.

It was felt by the members of the Committee that Mr. Kenneth E. O'Grady's comments as they appeared in the newspapers were those of an individual and did not represent the feelings of the Virginia Nurses Association.

The Committee also voted to recommend that the Virginia Nurses Association and The Medical Society of Virginia support the laws presently written in regard to nurse practitioners and particularly in regard to the use of this title.

Another action taken by the Committee was to recommend that nurse practitioners and other nurses be included in continuing medical education programs, both as students and lecturers where appropriate, as continuing medical education programs by all members of the medical community is a worthwhile endeavor.

C. Barrie Cook, MD,
Co-Chairman

Legislative

As this issue of VIRGINIA MEDICAL, goes into the mail, the Legislative Committee will be meeting to review 22 carry-over bills from the 1980 session of the Virginia General Assembly, together with suggested legislation referred by Council, specialty societies, component societies and individual physicians.

A supplemental legislative report will then be prepared at that meeting, showing recommended positions to be taken by the Society, and will be presented to the House of Delegates at the Annual Meeting for determination of official positions.

Another meeting of the Committee may be required about three weeks into the 1981 session (after the cutoff date for the introduction of all bills) to determine positions to be taken by the Society on new bills that were not anticipated prior to the session.

Glenn B. Updike, Jr., MD,
Chairman

Liaison to State Bar

The activities of the Liaison Committee to the State Bar during the year have dealt mainly with preparation of a statement of "Principles of Cooperation for Physicians and Attorneys in the Commonwealth of Virginia."

During several joint meetings in the spring and summer, this joint committee has prepared an updated statement of principles of cooperation recommended as a guide in matters of joint interest to physicians and attorneys. From many sources, information and statements considered of value to both professions have been included. The material is presently being submitted to the Councils of both The Medical Society of Virginia and the Virginia State Bar with recommendation for adoption.

Claude P. Sherman, MD,
Chairman

Membership

The Committee on Membership met on three occasions, in March, April and June. The first of these was in joint session with the Committee on Continuing Medical Education, the purpose being to formulate policy for implementation and monitoring of the requirement in the Bylaws (Art. IX, Sec. 4) for completion and reporting of the members' continuing education efforts.

It then fell to the Committee to determine if and when group and/or individual exemptions might be granted and by whom (Bylaws, Art. IX, Sec. 3) and, finally, to determine the steps indicated when these requirements are not satisfied by a member (Articles of Incorporation, Sec. 3, page 3). At its April 26 meeting, Council accepted group exemptions for those members in full retirement, i.e., seeing no patients and writing no prescriptions; full-time students, house staff and research fellows; those totally incapacitated by medical disability and other instances of severe hardship. The Committee's recommendation to include full-time medical educators was rejected by Council.

It was elected in Committee to allow the chairman the option of extending any deadline for reporting for individual cause. The Committee required full Committee action, however, for the granting of any requested individual exemption or for the removal of a member for failure to comply. These actions are



At a meeting of the Legislative Committee: in the front semi-circle, left to right, Dr. William W. S. Butler, III, Roanoke; Allen C. Goolsby, III, MSV legal counsel; Dr. Glenn B. Upkike, Danville, Chairman; Dr. Gervas S. Taylor, Jr., Norfolk; and Dr. Robert S. Hutcheson, Jr., Roanoke. Back row, left to right: Dr. Charles M. Caravati, Jr., Richmond; Dr. Leon I. Block, Falls Church; Dr. Harold L. Williams, Newport News, and Dr. Jack R. Woodside, Fairfax.

to be reported to Council at the succeeding meeting, removal to be effective the following November 1. Council referred to the Bylaws Committee the following change requested in the bylaws: "Those members dropped by The Medical Society of Virginia for failure to fulfill CME requirements, when applying again for membership, shall have met those requirements for the preceding year".

Of the 2,130 members who last names begin with A through G, 670 had reported their CME credits as of March 22, 1980. Through concentrated efforts by staff and Dr. Kinloch Nelson, to whom this Committee is deeply indebted, the total of members not having complied by August 1 was eight. It is anticipated the Committee will meet once more before the annual meeting, very hopefully to learn and report that all will retain membership, at least on the current basis.

Council directed the Committee to examine the current format of membership for students, interns and residents. Of concern were questions of appropriate and equitable status and effectiveness involving such members in Society concerns and direction. A report and recommendations were returned to Council on June 28, the recommendations were referred to the Bylaws Committee, as follows: Separate student-active and graduate-active groups; each paying reduced dues, voting, serving on committees, eligible for membership in the House of Delegates but not eligible to hold elected office.

The Committee has no recommendations on these topics to the House of Delegates, each of our recommendations having been addressed and/or referred through Council.

The Committee recognizes much

activity by members and component societies toward the addition of new members—the renewing of the strength of the Society and, through it, the increase in the ability of the Society to assist its members and their patients.

One continuing membership, we feel, must be assured, based upon its quality of service and leadership and long, dedicated hours spent on our behalf. The Committee takes pride, therefore, in its one recommendation to the House of Delegates—the nomination of George M. Nipe, MD, President of the Medical Society of Virginia for honorary active membership.

George Broman, Jr., MD
Chairman

Mental Health

Recommendations

1. That any program adopted by the Impaired Physician Study Committee should be helpful rather than coercive and should complement and work within the framework of the risk management law; that procedure be established for correct reporting of impaired physicians and sent to all Medical Society of Virginia members; and that the Impaired Physicians Study Committee assess the programs of other states and choose the best one.

The Committee felt some type of impaired physician program would be beneficial. Committee members were urged to send any suggestions they might have to the Impaired Physician Study Committee.

2. That a psychiatrist be appointed to The Medical Society of Virginia's Insurance Committee.

It was felt that psychiatrists have had so many problems in recent years with Blue Cross/Blue Shield and other third-party carriers, e.g., retroactive denial of claims, that a psychiatrist should be a member of the Insurance Committee.

General

The Committee expressed concern over commitments being made to state mental hospitals by the present pre-admission screening committees. It was hoped that, although inexperienced personnel sometimes make questionable decisions, efforts should be made to improve such procedures. It is also hoped that experience will help improve these problems.

A $2,000 limitation on psychiatric outpatient care under various industrial medical plans and independent practice associations was discussed. Concern for this problem has been brought before Council, and a resolution approved by the House of Delegates in 1979 was reaffirmed. This resolution endorsed the utilization of independent review mechanisms rather than restriction of benefits and elimination of some treatment procedures.

Repeal of the hypnosis statute was discussed, and concern was expressed over the fact that there is absolutely no control over the practice of hypnosis. The matter was referred to the Virginia State Board of Medicine for appropriate interpretation and action.

The Committee stressed the need for psychiatrists to be involved in the review of a state health plan. Several psychiatrists had been asked to review it and forward comments to the Society's Vanguard Committee.

W. Dimmock Buxton, MD,
Chairman

Negotiations

During 1979 and 1980, the Negotiations Committee chairman spent considerable time in developing a paper on "Policy Guidelines and Procedures for the Negotiations Committee". The nature of negotiations and the danger of conflict with federal and state anti-trust laws necessitated a meeting of the Committee with Mr. Thomas G. Slater, Jr., of the law firm of Hunton & Williams. He proposed a number of changes in the policy guidelines, and they were incorporated.

The complete text of "Policy Guidelines and Procedures for the Negotiations Committee" appears on the next two pages. It will be presented for approval at the 1980 Annual Meeting, together with the following related recommendations.

Recommendations

1. Adoption of the document entitled "Policy Guidelines and Procedures for the Negotiations Committee."

2. Development of training programs for Medical Society of Virginia negotiators through the American Medical Association's Department of Negotiations.

3. The development of a pool of trained negotiators representing special areas of expertise in which negotiations are apt to occur.

4. That the Executive Committee of the Council of The Medical Society of Virginia be authorized to provide guidance to the Negotiations Committee when the full Council of The Medical Society of Virginia is not available for instructions.

5. In view of the scope of the negotiation process and the lack of exemption from anti-trust act violations when there is not an employee-employer relationship, the Committee suggests that The Medical Society of Virginia provide liability insurance protection for Committee members.

Levi W. Hulley, Jr., MD
Chairman

Policy Guidelines and Procedures for the Negotiations Committee

The purpose of this paper is to clarify the function and aims of the Negotiations Committee and to define the procedures to be used in attaining its goals with particular emphasis on conforming with federal and state anti-trust laws. The "Society" it refers to is The Medical Society of Virginia and "Council" is The Medical Society of Virginia's Council.

It is published here as an appendix to the annual report of the Negotiations Committee.

1. Definition of "Negotiations"

Negotiations is defined as a formal meeting between specifically appointed Society officials and tbe official representatives of government, labor, an association, an industry, company or an organized group of individuals. Tbe purpose of the meeting is to resolve favorably a matter of significant importance to the Society, restricting the meeting activities to tbose areas which are exempt from the federal and state anti-trust laws.

Determination of whetber tbe matter is of "significant importance" and subject to formal negotiations shall be made by the House of Delegates, the Council of The Medical Society of Virginia, or the Executive Committee of the Council.

Specifically excluded from tbe definition of negotiations are all legislative matters, for which the Legislative Committee has bylaw autbority to determine interim policy and to seek the best solutions.

The Council is encouraged to utilize tbe formal negotiation process whenever tbis approach might be more productive than the traditional approaches. Traditional approacbes, such as, but not limited to, Society staff, Committee and Council assistance, should be utilized first.

2. Areas of Negotiation

It is expected that most negotiation efforts will occur in tbe areas of governmental regulatory programs and socioeconomics. Examples are proposed of operational governmental programs whicb interfere witb physician/patient relationship, burdens put on physicians through increased regulatory procedures, limits placed on physician activity, expansion of inappropriate activities of nonprofessionals, or penalties inflicted collectively on physicians througb the imposition of unfair reimbursement programs. In the area of socioeconomics, tbese same examples would apply to policies and programs of insurance companies and plan administrators.

Negotiation efforts may also be needed in the areas of medical education and public relations and with the health professions, such as pharmacists, psychologists, nurses, and otbers.

3. Authority to Conduct Negotiations

a. The recommendations submitted for approval by the House of Delegates of The Medical Society of Virginia (see opposite page).

b. The Council of The Medical Society of Virginia shall be responsible for the Society's overall negotiations program, providing for the selection, training, and direction of negotiators.

c. Policy guidance shall be provided by the House of Delegates, and when this is not feasible, by tbe Council of Tbe Medical Society of Virginia.

4. Principles to Guide Negotiators

a. No action shall be taken by the Society establishing any schedule of fees for medical, surgical and special services of its members.

b. The Medical Society of Virginia shall not enter into contracts or agreements with any person, firm or agency with respect to the practice of medicine or fees for such practice.

c. No individual Society member, component chapter, group of members, staff or legal counsel shall initiate any formal negotiation effort on the part of Tbe Medical Society of Virginia without prior approval of the House of Delegates or the Council of Tbe Medical Society of Virginia. In the event that the need for action precludes presentation of tbe issue to the House of Delegates or the Council, approval to negotiate may be granted by the President, Vice President or Speaker of the House of Delegates. Emergency actions taken under this authority shall be reported immediately to the Council of The Medical Society of Virginia and reported to the House of Delegates at its next regular meeting. Any subsequent disapproval by the Council or the House of Delegates shall suspend that negotiation effort.

d. The formal negotiation process sball not include activities to assist an individual Society member to resolve a

dispute with a third party. Individual members will continue to be served in this regard by councils, committees and the staff of the Society. However, when it is apparent that a number of Society members are experiencing the same difficulty with a third party, then this dispute may be subject to formal negotiations.

e. No negotiation effort will be undertaken to enhance the position of one segment of the Society membership to the detriment of another segment. Specifically, all internal disputes will be resolved and a position developed before negotiations can be considered.

f. Negotiators should be guided by a set of specific principles developed for the issue being negotiated. These principle shall define:

1) The Medical Society of Virginia's policy on the issue;
2) the specific points to be negotiated;
3) the desired results;
4) the limitations beyond which negotiations may not extend;
5) reporting procedures to be followed subsequent to each negotiation effort.

These principles will be developed prior to any negotiation effort by the House of Delegates or the Council of The Medical Society of Virginia.

g. Prior to commencing negotiations, the Negotiations Committee shall obtain an opinion from legal counsel as to the anti-trust implications, if any, of each negotiations effort.

h. Guided by these principles, negotiators shall have the authority to commit The Medical Society of Virginia to a certain source of action, subject to the following restrictions:

The course of action may not:

1) contravene present Medical Society of Virginia policy;
2) commit an individual member of the Society to the withholding of medical services;
3) commit the Society to the future expenditure of funds (any needed funds must be approved by the Council of The Medical Society of Virginia).

5. Role of the President

The President shall oversee all negotiation efforts. He shall:

a. Receive all negotiation requests offered by the Council, committees, members, staff or legal counsel.

b. Determine whether the Society policy supports or precludes the proposed negotiation efforts. In the absence of needed Society policy, the President shall secure policy determinations from the House of Delegates, Council of The Medical Society of Virginia, Executive Committee of the Council of The Medical Society of Virginia, whichever is indicated.

c. Request the approval of the House of Delegates, Council of The Medical Society of Virginia, or the Executive Committee of the Council of The Medical Society of Virginia to proceed with negotiations.

d. Appoint the negotiators (subject to the procedures outlined in Section 6 below).

e. Secure from the policy body the necessary specific principles needed to guide the negotiators.

f. Arrange the negotiation meeting.

g. Receive reports and report progress to the appropriate Society policy group.

6. Qualifications/Appointment of Negotiators

a. Negotiators shall be selected on the basis of 1) their knowledge of the field or of the specific issue to the negotiated; 2) their ability to negotiate as evidenced by their formal training in negotiations and/or their proven leadership in Society affairs. Executive staff and legal counsel may be selected for appointment.

The expertise of the Society's allied medical organizations may be utilized through the appointment of qualified, individual members of those organizations.

b. The President shall appoint all negotiators.

1) In the selection process, he shall consult with the President Elect and any other Society official considered knowledgeable in the specific negotiations area.
2) An initial pool of negotiators shall be appointed and trained. This group of negotiators shall be composed primarily of individuals with expertise in the socioeconomic area. These appointments shall be approved by the Council of The Medical Society of Virginia.
3) As negotiable issues are identified, the President shall appoint teams of negotiators selected from the pool.
4) Subsequently, if negotiators are needed for areas or issues not covered by the expertise of the pool, the President shall make the necessary new appointments, and notify the Council of The Medical Society of Virginia at the earliest opportunity.

c. Appointments shall be for three years.

7. Reports of Findings

Negotiators shall have the responsibility to report their findings, agreements, or recommendations to the Council of The Medical Society of Virginia. The Council of the Society, which has the authority to make interim policy decisions, shall then report these activities to the House of Delegates for ratification.

8. Training of Negotiators

To assure the highest possible level of competence of Society negotiators, those appointed will be required to take formal training, at the Society's expense. The primary training program will be that conducted by the American Medical Association.

9. Reimbursement of Negotiators

When assigned to negotiate a specific issue, negotiators will be reimbursed actual transportation costs to the site of the negotiations and will also recieve per diem for each day of negotiations, as established by the Council of The Medical Society of Virginia

10. Liability Coverage

The Medical Society of Virginia shall provide corporate liability insurance in adequate amounts to protect all members of the Negotiations Committee from any and all claims arising from official actions of the Committee whether corporate or personal.



A non-narcotic one-two punch against pain, with concurrent relief of anxiety/tension

EQUAGESIC®

(meprobamate and ethoheptazine citrate with aspirin) Wyeth

EQUAGESIC—Abbreviated Summary

***INDICATIONS**: Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the indications as follows:
"Possibly" effective: for the treatment of pain accompanied by tension and/or anxiety in patients with musculoskeletal disease or tension headache.
Final classification of the less-than-effective indications requires further investigation.
The effectiveness of Equagesic in long-term use, i.e. more than four months, has not been assessed by systematic clinical studies. The physician should periodically reassess usefulness of the drug for the individual patient.

CONTRAINDICATIONS: Equagesic should not be given to individuals with a history of sensitivity or severe intolerance to aspirin, meprobamate, or ethoheptazine citrate.

WARNINGS: Careful supervision of dose and amounts prescribed for patients is advised, especially with those patients with known propensity for taking excessive quantities of drugs. Excessive and prolonged use in susceptible persons, e.g., alcoholics, former addicts, and other severe psychoneurotics, has been reported to result in dependence on or habituation to the drug. Where excessive dosage has continued for weeks or months, dosage should be reduced gradually rather than abruptly stopped, since withdrawal of a "crutch" may precipitate withdrawal reaction of greater proportions than that for which the drug was originally prescribed. Abrupt discontinuance of doses in excess of the recommended dose has resulted in some cases in the occurrence of epileptiform seizures.
Special care should be taken to warn patients taking meprobamate that tolerance to alcohol may be lowered with resultant slowing of reaction time and impairment of judgement and coordination.
USAGE IN PREGNANCY AND LACTATION: An increased risk of congenital malformations associated with the use of minor tranquilizers (meprobamate, chlordiazepoxide, and diazepam) during the first trimester of pregnancy has been suggested in several studies. Because use of these drugs is rarely a matter of urgency, their use during this period should almost always be avoided. The possibility that a woman of child-bearing potential may be pregnant at the time of institution of therapy should be considered. Patients should be advised that if they become pregnant during therapy or intend to become pregnant they should communicate with their physicians about the desirability of discontinuing the drug.
Meprobamate passes the placental barrier. It is present both in umbilical-cord blood at or near maternal plasma levels and in breast milk of lactating mothers at concentrations two to four times that of maternal plasma. When use of meprobamate is contemplated in breast-feeding patients, the drug's higher concentrations in breast milk as compared to maternal plasma levels should be considered.
Preparations containing aspirin should be kept out of the reach of children. Equagesic is not recommended for patients 12 years of age and under.
PRECAUTIONS: Should drowsiness, ataxia, or visual disturbance occur, the dose should be reduced. If symptoms continue, patients should not operate a motor vehicle or any dangerous machinery.
Suicidal attempts with meprobamate have resulted in coma, shock, vasomotor and respiratory collapse, and anuria. Very few suicidal attempts were fatal, although some patients ingested very large amounts of the drug (20 to 40 gm). These doses are much greater than recommended. The drug should be given cautiously, and in small amounts, to patients who have suicidal tendencies. In cases where excessive doses have been taken, sleep ensues rapidly and blood pressure, pulse, and respiratory rates are reduced to basal levels. Hyperventilation has been reported occasionally. Any drug remaining in the stomach should be removed and symptomatic treatment given. Should respiration become very shallow and slow, CNS stimulants, e.g., caffeine, Metrazol, or amphetamine, may be cautiously administered. If severe hypotension develops, pressor amines should be used parenterally to restore blood pressure to normal levels.
ADVERSE REACTIONS: A small percentage of patients may experience nausea with or without vomiting and epigastric distress. Dizziness occurs rarely when meprobamate and ethoheptazine citrate with aspirin is administered in recommended dosage. The meprobamate may cause drowsiness but, as a rule, this disappears as therapy is continued. Should drowsiness persist and be associated with ataxia, this symptom can usually be controlled by decreasing the dose, but occasionally it may be desirable to administer central stimulants such as amphetamine or mephentermine sulfate concomitantly to control drowsiness.
A clearly related side effect to the administration of meprobamate is the rare occurrence of allergic or idiosyncratic reactions. This response develops, as a rule, in patients who have had only 1-4 doses of meprobamate and have not had a previous contact with the drug. Previous history of allergy may or may not be related to the incidence of reactions.
Mild reactions are characterized by an itchy urticarial or erythematous, maculopapular rash which may be generalized or confined to the groin. Acute nonthrombocytopenic purpura with cutaneous petechiae, ecchymoses, peripheral edema, and fever have also been reported.
More severe cases, observed only very rarely, may also have other allergic responses, including fever, fainting spells, angioneurotic edema, bronchial spasms, hypotensive crises (1 fatal case), anaphylaxis, stomatitis and proctitis (1 case), and hyperthermia. Treatment should be symptomatic such as administration of epinephrine, antihistamine, and possibly hydrocortisone. Meprobamate should be stopped, and reinstitution of therapy should not be attempted.
Rare cases have been reported where patients receiving meprobamate suffered from aplastic anemia (1 fatal case), thrombocytopenic purpura, agranulocytosis, and hemolytic anemia. In nearly every instance reported, other toxic agents known to have caused these conditions have been associated with meprobamate. A few cases of leukopenia during continuous administration of meprobamate are reported; most of these returned to normal without discontinuation of the drug.
Impairment of accommodation and visual acuity has been reported rarely.
OVERDOSE: Two instances of accidental or intentional significant overdosage with ethoheptazine citrate combined with aspirin have been reported. These were accompanied by symptoms of CNS depression, including drowsiness and light-headedness, with uneventful recovery. However, on the basis of pharmacological data, it may be anticipated that CNS stimulation could occur. Other anticipated symptoms would include nausea and vomiting. Appropriate therapy of signs and symptoms as they appear is the only recommendation possible at this time. Overdosage with ethoheptazine combined with aspirin would probably produce the usual symptoms and signs of salicylate intoxication. Observation and treatment should include induced vomiting or gastric lavage, specific parenteral electrolyte therapy for ketoacidosis and dehydration, watching for evidence of hemorrhagic manifestations due to hypoprothrombinemia which, if it occurs, usually requires whole-blood transfusions.
DESCRIPTION: Each Equagesic tablet contains 150 mg meprobamate, 75 mg ethoheptazine citrate and 250 mg aspirin.

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*This drug has been evaluated as possibly effective for this indication.

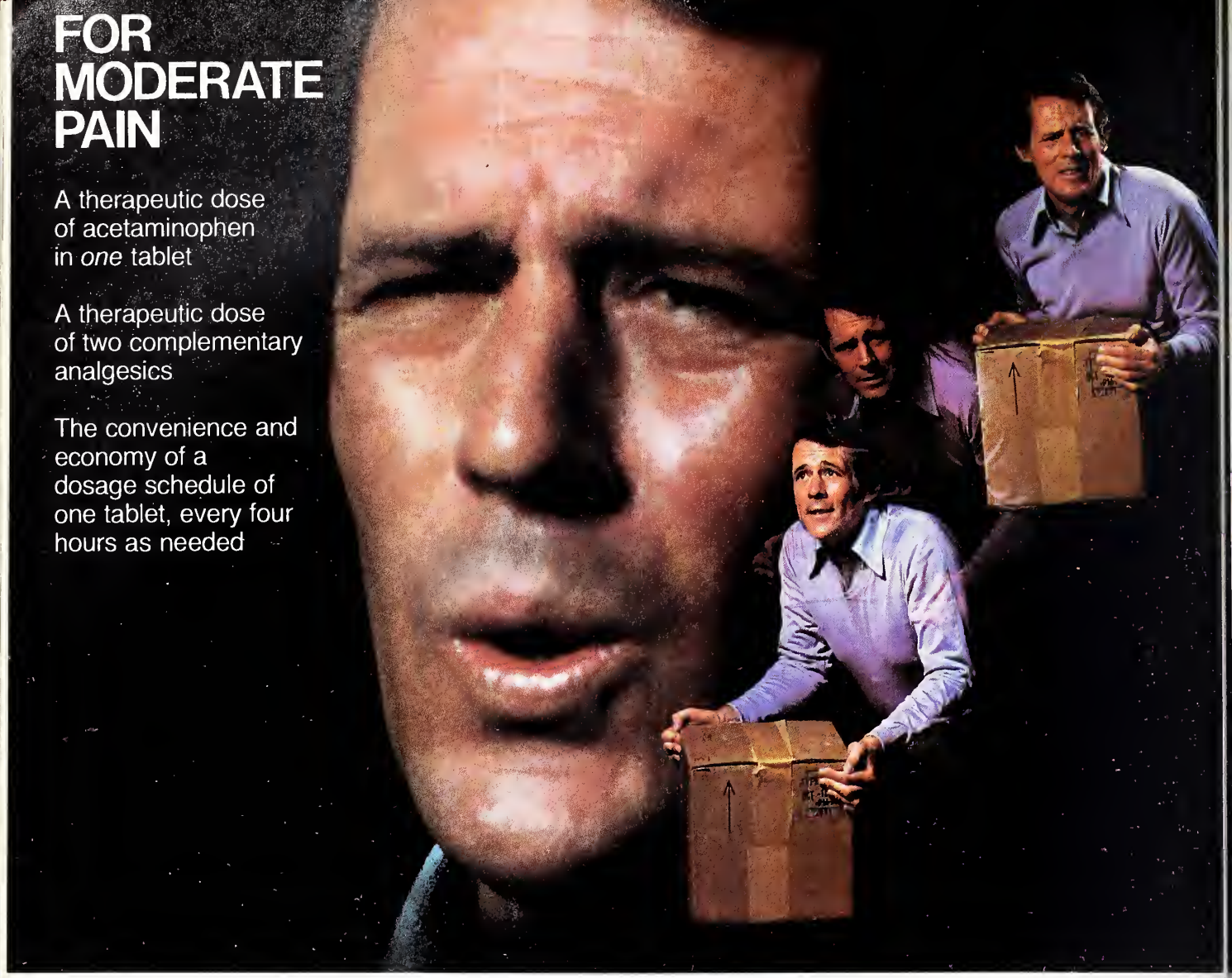
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FOR MODERATE PAIN

A therapeutic dose of acetaminophen in *one* tablet

A therapeutic dose of two complementary analgesics

The convenience and economy of a dosage schedule of one tablet, every four hours as needed



WHY NOT WYGESIC® C IV

(65 mg propoxyphene HCl and 650 mg acetaminophen) Wyeth

WYGESIC—Abbreviated Summery

INDICATION: For the relief of mild-to-moderate pain.

CONTRAINDICATION: Hypersensitivity to propoxyphene or to acetaminophen.

WARNINGS: CNS ADDITIVE EFFECTS AND OVERDOSAGE: Propoxyphene in combination with alcohol, tranquilizers, sedative-hypnotics, or other CNS depressants has an additive depressant effect. Patients taking this drug should be advised of the additive effect and warned not to exceed the dosage recommended. Toxic effects and fatalities have occurred following overdoses of propoxyphene alone or in combination with other CNS depressants. Most of these patients had histories of emotional disturbances or suicidal ideation or attempts, as well as misuse of tranquilizers, alcohol, or other CNS-active drugs. Caution should be exercised in prescribing large amounts of propoxyphene for such patients (see **Management of Overdosege**).

DRUG DEPENDENCE: Propoxyphene can produce drug dependence characterized by psychic dependence and less frequently, physical dependence and tolerance. It will only partially suppress the withdrawal syndrome in individuals physically dependent on morphine or other narcotics. The abuse liability of propoxyphene is qualitatively similar to codeine's although quantitatively less, and propoxyphene should be prescribed with the same degree of caution appropriate to the use of codeine.

USAGE IN AMBULATORY PATIENTS: Propoxyphene may impair the mental and/or physical abilities required for potentially hazardous tasks, e.g. driving a car or operating machinery. Patients should be cautioned accordingly.

USAGE IN PREGNANCY: Safe use in pregnancy has not been established relative to possible adverse effects on fetal development. INSTANCES OF WITHDRAWAL SYMPTOMS IN THE NEONATE HAVE BEEN REPORTED FOLLOWING USAGE DURING PREGNANCY. Therefore, propoxyphene should not be used in pregnant women unless, in the judgement of the physician, the potential benefits outweigh the possible hazards.

USAGE IN CHILDREN: Propoxyphene is not recommended for children because documented clinical experience has been insufficient to establish safety and a suitable dosage regimen in the pediatric group.

PRECAUTIONS: Confusion, anxiety, and tremors have been reported in a few patients receiving propoxyphene concomitantly with orphenadrine. The CNS depressant effect of propoxyphene may be additive with other CNS depressants, including alcohol.

ADVERSE REACTIONS: The most frequent adverse reactions are dizziness, sedation, nausea, and vomiting. These seem more prominent in ambulatory than in nonambulatory patients; some of these reactions may be alleviated if the patient lies down.

Other adverse reactions include constipation, abdominal pain, skin rashes, light-headedness, headache, weakness, euphoria, dysphoria, and minor visual disturbances. The chronic ingestion of propoxyphene in doses over 800 mg per day has caused toxic psychoses and convulsions. Cases of liver dysfunction have been reported.

DRUG INTERACTIONS: Propoxyphene in combination with alcohol, tranquilizers, sedative-hypnotics, and other CNS depressants has an additive depressant effect. Patients taking this drug should be advised of the additive effect and warned not to exceed the dosage recommended. (see **Warnings**) Confusion, anxiety, and tremors have been reported in a few patients receiving propoxyphene concomitantly with orphenadrine.

MANAGEMENT OF OVERDOSAGE: SYMPTOMS The manifestations of serious overdosage with propoxyphene are similar to those of narcotic overdosage and include respiratory depression (a decrease in respiratory rate and/or tidal volume, Cheyne-Stokes respiration, cyanosis), extreme somnolence progressing to stupor or coma, pupillary constriction, and circulatory collapse. In addition to these characteristics, which are reversed by narcotic antagonists such as naloxone, there may be other effects. Overdoses of propoxyphene can cause delay of cardiac conduction as well as focal or generalized convulsions, a prominent feature in most cases of severe poisoning. Cardiac arrhythmias and pulmonary edema have occasionally been reported, and apnea, cardiac arrest, and death have occurred.

Symptoms of massive overdosage with acetaminophen may include nausea, vomiting, anorexia, and abdominal pain, beginning shortly after ingestion and lasting for 12 to 24 hours. However, early recognition may be difficult since early symptoms may be mild and nonspecific. Evidence of liver damage is usually delayed. After the initial symptoms, the patient may feel less ill; however, laboratory determinations are likely to show a rapid rise in liver enzymes and bilirubin. In case of serious hepatotoxicity, jaundice, coagulation defects, hypoglycemia, encephalopathy, coma, and death may follow. Renal failure due to tubular necrosis, and myocardiopathy, have also been reported.

Ingestion of 10 grams or more of acetaminophen may produce hepatotoxicity. A 13-gram dose has reportedly been fatal.

TREATMENT: Primary attention should be given to the reestablishment of adequate respiratory exchange through provision of a patent airway and institution of assisted or controlled ventilation. The narcotic antagonists, naloxone, nalorphine, and levallorphan, are specific antidotes against the respiratory depression produced by propoxyphene. An appropriate dose of one of these antagonists should be administered, preferably IV, simultaneously with efforts at respiratory resuscitation and the antagonist should be repeated as necessary until the patient's condition remains satisfactory. In addition to a narcotic antagonist, the patient may require careful titration with an anticonvulsant to control seizures. Analeptic drugs (e.g. caffeine or amphetamine) should not be used because of their tendency to precipitate convulsions.

Oxygen, IV fluids, vasopressors and other supportive measures should be used as indicated. Gastric lavage may be helpful. Activated charcoal can absorb a significant amount of ingested propoxyphene. Dialysis is of little value in poisoning by propoxyphene alone. Acetaminophen is rapidly absorbed, and efforts to remove the drug from the body should not be delayed. Copious gastric lavage and/or induction of emesis may be indicated. Activated charcoal is probably ineffective unless administered almost immediately after acetaminophen ingestion. Neither forced diuresis nor hemodialysis appears to be effective in removing acetaminophen. Since acetaminophen in overdose may have an antidiuretic effect and may produce renal damage, administration of fluids should be carefully monitored to avoid overload. It has been reported that mercaptamine (cysteamine) or other thiol compounds may protect against liver damage if given soon after overdosage (8-10 hours). N-acetylcysteine is under investigation as a less toxic alternative to mercaptamine, which may cause anorexia, nausea, vomiting, and drowsiness. Appropriate literature should be consulted for further information. (JAMA 237:2406-2407, 1977)

Clinical and laboratory evidence of hepatotoxicity may be delayed up to one week. Acetaminophen plasma levels and half-life may be useful in assessing the likelihood of hepatotoxicity. Serial hepatic enzyme determinations are also recommended.

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PSRO Liaison

Recommendation

1. That the Society's legislative package contain a proposal that Virginia's two statutes (Section 8.01-581.16 and Section 8.01-581.13 of the code) either be replaced by a proposed model law relating to civil immunity for medical review organizations or be amended to make the language of the two statutes parallel and broadened to include agents and employees of medical review organizations in the immunity provisions.

A law firm retained by the American Association of Professional Review Organization to research state statutes on peer review immunity provisions concluded that Virginia has the "most confusing" situation in the country, since it has two statutes that do not parallel each other in language. This could lead to confusion in interpretation by the courts of legislative intent. A model law on this topic has been developed that would not only solve the problem but would grant immunity to agents and employees of medical review organizations, which is not addressed in either of Virginia's two current laws. PSROs are protected by federal law in their review of federally funded patients. Virginia PSROs are moving into "private review", and there is an active interest on the part of large purchasers of health care to have reviews of their beneficiaries conducted by PSROs. This protection under state law is felt to be necessary and even urgent, since "private review" by Virginia physicians is already under way.

General

The Virginia Statewide PSRO Council has been organized and is fully staffed. It is functioning to coordinate and assist the activities of the five Virginia PSROs; to hear appeals of adverse reconsiderations of termination of benefits at the PSRO level; to review and comment on sanction reports from individual PSROs prior to transmittal to the Department of Health and Human Services; and to establish liaison relations with the many state organizations representing health care providers as well as relations with fiscal agencies. The council currently is developing an Advisory Group of Health Care Practitioners Other Than Physicians. These will be individuals representing state associations of professionals whose activities in hospitals are subject to PSRO review.

The Virginia Statewide PSRO Council is also pursuing the development of a physician-controlled consortium to collect clinical data on a regional (Virginia and West Virginia) basis, as required by federal law. Initially, only federally funded patient data is to be collected, but the law requires and the ultimate intent of the Department of Health and Human Services is to collect clinical data on *all* institutionalized patients. The federal scheme is to collect data on each instance of hospitalization only once and share it with all agencies needing information, rather than having each agency collect information. Physician control of this enterprise is absolutely vital if there is to be any semblance of confidentiality as it relates to individual patients or physicians.

Robert A. Morton, MD,
Chairman

Public Relations

Last year our cry was to inject some Geritol into the veins of this committee. With many people's help this has been done, and we are making strides in alerting Virginia physicians to the importance of keeping our profession's image fit, and Virginians to our profession's accomplishments.

Nothing would please this chairperson more than to report to you a smashing year for public relations of The Medical Society of Virginia. However, one must take solace in the old adage, "Mile by mile takes awhile, yard by yard is very hard, but inch by inch is a cinch." Inching on, then, we have the following things to note.

First, our component societies are reporting a growing demand for physician speakers for local community groups. In order to help meet this demand in an organized and effective manner, the Public Relations Committee has, with the help of our consultants, compiled an instruction kit outlining the steps to forming and operating a speakers' bureau. An attempt has been made to get these into each component society's hands. If you haven't gotten yours, please let us know.

Secondly, the Burroughs-Wellcome program is now getting started and is in operation in several areas of the state. Physicians are on the air or soon scheduled to begin regular TV and/or radio segments in Harrisonburg, Norfolk, Virginia Beach, Chesapeake, Fairfax County, Richmond and Lynchburg. Our first training session in Richmond was a success, and another is planned for the annual meeting in Williamsburg. If you are interested please plan to attend.

Realizing that a good physician-patient relationship is an important part of positive public relations and that this is an area in which we can all use help, the Public Relations Committee has made available to our component societies the Society's public relation consultants to present programs of ideas for positive office procedures, how to deal with local press and how physicians, as individuals, can communicate more effectively with their patients and communities.

The Public Relations Committee believes that many of the medical community's problems with poor

press relations have found their nidus in too little rather than too much exposure to the media. Toward the end that must be corrected, the Public Relations Committee, with the backing of Council, will be inviting Virginia media representatives to attend our annual meeting in Williamsburg. Our hope is that, by inviting the members of the press to talk with Virginia physicians and learn about issues which are facing the Society, we will begin to establish a relationship which will lead to a better understanding of medicine and its concerns. Plans for a "press room" and briefings for reporters on issues to be addressed by the Society are being made.

Public relations efforts are already beginning to pay dividends in Northern Virginia, where a speakers' bureau and cost containment programs are in operation and mailings have been conducted. A recent poll conducted by the Vanguard Committee showed positive public perception of physicians to be higher than two years ago in that area. Other areas of the state have not been measured, but public receptivity to physician efforts such as the Burroughs-Wellcome program has been enthusiastic everywhere.

In addition to the Public Relations Committee's more organized projects, we of course applaud and encourage the public-spirited efforts of each component society to sponsor programs of their own which reach out to help the community. Projects such as the Roanoke Academy's series of 30-minute public service TV shows, Danville's senior citizen screening clinic and the Richmond Academy's Task Force for the Prevention of Disease and Disability in conjunction with the local HSA are just a few of the worthy programs being conducted by component societies in Virginia. The only way we can ultimately strengthen medicine's image is to continue to do the good things doctors are doing and to let the public know that we care.

We can turn things around and, with the continued help of our membership, we will.

Frederick K. McCune, MD,
Chairman

Rehabilitation

The Rehabilitation Committee has continued its primary focus of providing consultation and assistance to the Virginia Department of Rehabilitative Services regarding medically related matters. The policies of this department have considerable impact on the medical community and patient care and the contribution of the medical community to this agency's policy formation is deemed most appropriate.

The Committee had two meetings since the last report. The first meeting was on October 28, 1979, the second on May 18, 1980. At both meetings 12 members of the Committee were present, joined by representatives of the Virginia Department of Rehabilitative Services. No recommendations were formulated at either meeting, but the following actions were taken.

The Committee received a proposal to approve the utilization of critical care medicine specialists. After some discussion, the Committee decided to appoint a subcommittee to study the matter further and make recommendations.

A revised surgical fee schedule was approved, as were minor revisions in the laboratory fee schedule.

The Committee approved the report of the sub-committee on Guidelines for the Determination of Acute vs. Chronic Care, in establishing eligibility for physical restorative services.

The Committee approved several proposed changes in its general policies on surgical procedures. These included a revision of the policies on multiple procedures, clarification of the policy on pre- and post-operative care, provision for the utilization of assistant surgeons and co-surgeons, and the recommendation that incidental procedures performed in conjunction with an authorized surgical procedure are not a basis for payment of an additional fee.

The Committee was requested to reconsider its previous recommendation (meeting of November 9, 1975) that the Department of Rehabilitation not sponsor outpatient cardiac catheterization. After a lengthy discussion, the Committee reaffirmed its previous recommendation that the Department not sponsor outpatient cardiac catheterization.

The Committee approved a report of the Sub-Committee on Critical Care Medicine, which recommended the approval of authorization for critical care services to selected clients. The Committee approved the recommendations of the Sub-Committee on Weight Control Clinics and Services and Pain Control Clinics and Services. These recommendations were as follows: disapproval of agency sponsorship of non-surgical physical restorative services for obesity; disapproval of agency sponsorship of surgical procedures for "morbid" obesity at this time; disapproval of the agency's utilization of pain control clinics and services for the relief or control of pain as a physical restorative service; approval of the "in-house" use of transcutaneous nerve stimulators by the medical staff of Woodrow Wilson Rehabilitation Center.

The Committee gave approval to minor revisions in the diagnostic fee schedule.

The Committee continues to provide advice and consultation during the year to the Department of Rehabilitative Services. Throughout the year, individual members of the

Committee are called upon for assistance and consultation regarding concerns related to their medical specialties.

This has been a most active and productive year for the Rehabilitation Committee.

Alexander McCausland, MD,
Chairman

Rural Health

The Rural Health Committee met with the Rural Health Committee of the Virginia Farm Bureau Federation at Medical Society of Virginia headquarters on August 5.

Presentations were made on "We Can't Afford Government Intervention—NHI Strategies", "National Health Service Corps—Are They Fulfilling Their Objectives?", and "HMOs and IPAs". A discussion and question-and-answer period followed each presentation, and many informative and useful ideas were exchanged.

Mr. Will Osburn of the MSV staff represented the Committee and the Society at the annual 4-H Club Recognition Program held in Blacksburg on June 24, 1980. Awards for health projects were presented to winners at that time.

O. Hunter McClung, Jr., MD,
Chairman

Sports Medicine

Recommendations

1. That The Medical Society of Virginia establish a registry for athletic trainers.

It is clear to the Sports Medicine Committee that athletic trainers offer definite advantages at the high school level, but there is wide diversity in the education and training of those presently acting in this capacity (often an assistant coach with no formal training). Some criteria to identify variations in education and training will aid in stabilizing the present situation and could act as a catalyst in upgrading the capabilities of athletic trainers throughout Virginia. These criteria should be established in cooperation with The Virginia Athletic Trainers Association.

The costs of a certification program are expected to be minimal, involving only some clerical expense and certificates. No additional personnel appear to be needed. Final certification of trainers will be determined by The Medical Society of Virginia with the advice and cooperation of the Virginia Athletic Trainers Association.

It is anticipated that Society leadership in this area will substantially improve the quality of care delivered to Virginia's young athletes and will also be good public relations for the medical profession.

2. That The Medical Society of Virginia establish a state council on physical fitness.

The President's Council on Physical Fitness has made strong efforts to encourage state councils, and to date, 25 states have done so, under the direction of the governor's office, department of health, or department of physical education through the university system. The concept has been rejected by Virginia's legislators for the stated reason that they did not want to add yet another organization to the burden of state councils and agencies.

The role of exercise in the preservation of health and the prevention of disease is well established. Leadership by The Medical Society of Virginia in the public encouragement of such a healthful activity is logical and could have a positive public relations effect. Industry has a definite interest in such initiatives; for instance, Blue Cross/Blue Shield has sponsored the national association of such state councils. And Governor Dalton, through a personal communication to the chairman of the Sports Medicine Committee, has expressed interest in cooperating in the formation of Virginia council.

It is the Sports Medicine Committee's intent to energize these various elements into a concerted effort. Anticipated costs of such an effort are minimal, with no additional personnel needed. Future programs, such as high-level sporting events, would be expected to be self-supporting.

General

The Sports Medicine Committee presented a two-hour program to the annual Coaches Clinic of the Virginia High School League on July 16, 1980, at Robins Center, University of Richmond, which was attended by 250 coaches. This is expected to be an annual Medical Society of Virginia/Sports Medicine Committee event. (Editors' Note: An illustrated feature article describing this program begins on page 674 of this issue.)

The Committee has cooperated with the Department of Physical Education, University of Virginia, in sponsorship of the annual University of Virginia sports medicine program.

The Sports Medicine Committee's chairman taught a post-graduate credit course in sports medicine for the University of Virginia's Department of Continuing Medical Education. Highlights of the course included visits to Redskins Park in Washington and the cardiac stress laboratory at Arlington Hospital.

The Sports Committee of the Arlington County Medical Society presents an annual program for Northern Virginia public school physical education departments. The Sports Medicine Committee urges other component medical societies to sponsor similar programs in their areas and will be delighted to help in getting them started. Virginia's educational system is eager to cooperate in such programs.

Robert P. Nirschl, MD
Chairman



At a meeting of the Vanguard Committee: left to right, Dr. Harry C. Kuykendall, Alexandria, Chairman; Dr. George J. Carroll, Suffolk; Dr. John W. Hollowell, Portsmouth; Dr. Ira J. Green, Alexandria; Dr. John P. Mamana, McLean; Dr. C. M. Kinloch Nelson, Richmond; and Dr. Joseph V. Puglise, Lorton. Back row, left to right: Dr. Stephen M. Norfleet, Newport News; Dr. Eugene R. Lareau, Harrisonburg; Dr. Lloyd B. Burk, Jr., Arlington; Dr. Robert S. Hutcheson, Jr., Roanoke; Dr. William H. Barney, Lynchburg; Dr. Robert C. Green, Jr., Winchester; and Dr. Richard Joseph Hart, Falls Church.

Vanguard

The Vanguard Committee's 1979 report contained 16 recommendations that were adopted by the House of Delegates—recommendations bearing on such diverse matters as health systems agencies, maximum reimbursement scales and national health insurance. I am pleased to report the affirmative completion of 11 of those recommendations and decided progress in accomplishing the other five.

This year the Vanguard Committee produced documents on health maintenance organizations, state catastrophic health plans, public perceptions of the medical professions and health planning; proposed amendments to the Health Planning Act and Appropriateness Review by the HSAs; and continued to monitor and critique Virginia's five Health Systems Plans, state Health Plan and state Medical Facilities Plan.

Consonant with its recommendations, the Committee authored five resolutions for the Virginia delegation to submit to the American Medical Association's December and July meetings. These resolutions were lauded for their timeliness and precision and the Vanguard Committee was singled out for particular praise.

The Committee has tried to increase the exchange of information and pooling of efforts between Vanguard and the AMA, other similar organizations across the country and related bodies within The Medical Society of Virginia.

The Committee expects to submit to the House of Delegates at the Annual Meeting in November a sup-

plemental report with its recommendations for action.

The Committee now recognizes a quantum increase in the knowledge, expertise and willingness of Virginia's physicians to be involved in health-planning processes. With the accomplishment of this major goal, and realizing that the bulk of Vanguard's past capital expenditures have been dedicated to health planning issues, the Committee hopes to decrease its budgetary requirements.

The Committee expresses its appreciation to the Society for the intensive personal, professional and fiscal support of the membership. The chairman, in Chicago at the American Medical Association's invitation, heard grateful acknowledgement of Virginia's "subsidization" of the entire medical population by its novel and generous approach to health planning and federal legislative affairs. Your contributions have borne fruit and earned the congratulations of the profession.

H. C. Kuykendall, MD,
Chairman

Virginia Medical

In the year past, VIRGINIA MEDICAL

- held an Editorial Board meeting, the first in 25 years;
- engaged a professional writer, Carl L. Shires, to furnish feature articles on political topics;
- hired Mrs. Mary S. Evans as assistant to the Managing Editor;
- initiated two new departments: "Can You Diagnose This?", a medical puzzle series, and "From the Va Med News Bureau", a showcase for information of import to Virginia physicians;
- edited and published 120 manuscripts by 211 authors and 21 letters to the Editor; put together the program for the Annual Meeting and printed 63 pages of proceedings; researched and reported 39 obituaries and 154 Who's Who entries; attended to the needs of 414 pages of advertising.

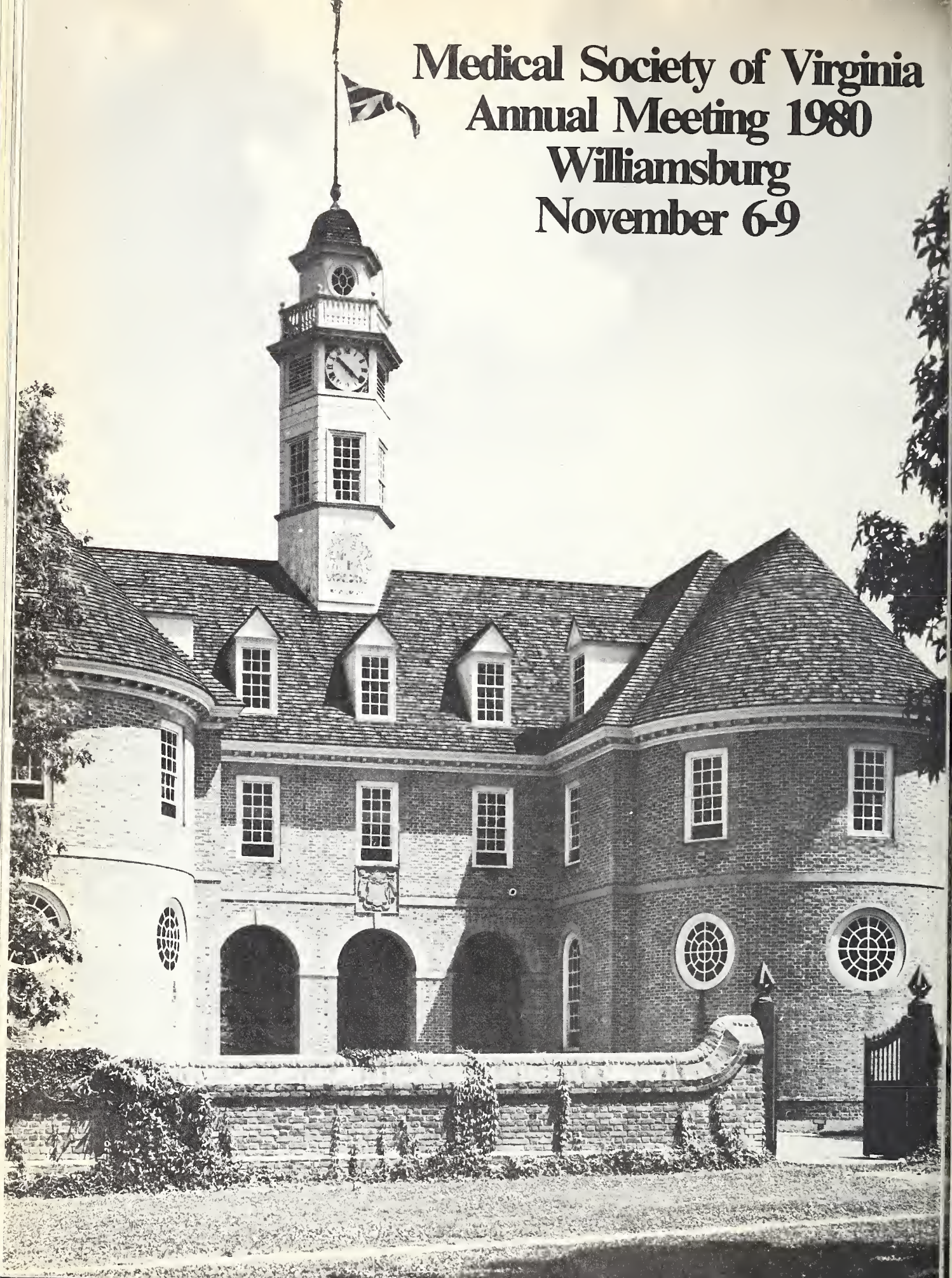
We are just delighted with the many fine manuscripts that appeared in the pages of the past twelve issues and very much hope the membership will continue its strong support in the coming year.

W. T. Thompson, Jr., MD
Editor

At a meeting of Virginia Medical's Editorial Board: left to right: Dr. W. T. Thompson, Jr., Editor, Dr. Walter Lawrence, Jr., Dr. Duncan S. Owen, Jr., and Dr. Edwin L. Kendig, Jr., all of Richmond; Dr. Raymond S. Brown, Gloucester; and Dr. Henry S. Campell, Martinsville.



Medical Society of Virginia
Annual Meeting 1980
Williamsburg
November 6-9



VIRGINIA MEDICAL

EDITORIAL

Whose Ox?

MOTORCYCLING is riskier than automobiling; skiing is riskier than walking; swimming is riskier than sitting on the beach. Each person chooses the activity that suits him, accepting whatever risks are involved. Similarly, as physicians we explain both the risks and the benefits of surgery so that the patient can make an educated decision. Other examples of daily decisions affecting personal safety can be listed endlessly.

Disproportionate attention has been paid in the last few years to the matter of helmets as a safety measure for motorcyclists, with a continuing wrangle over whether or not to mandate them. I am convinced that motorcycle helmets are protective and that motorcyclists should wear them for personal safety. I am convinced both as a doctor and as a motorcyclist. I know well that helmets are heavy, uncomfortable, restrictive of extreme peripheral vision and of hearing, and I know just as well that helmets reduce head injuries.

The old saw about airplane pilots applies equally to motorcyclists: There are old motorcyclists, and there are bold motorcyclists, but there are very few old, bold motorcyclists. Acquiring my first motorcycle at the age of 14 and still riding at 45, I fall into the "old" category. I have never had a major accident, but I have had to dodge a few automobiles whose drivers chose to ignore me. I have never committed a serious crime while riding a motorcycle. I have never been a member of a motorcycle gang. I have no tattoos—nor very much hair. I am an ordinary man who has chosen medicine as a career, farming as an avocation, and motorcycle riding as a relaxation. Being rational most of the time and—so far as I can determine—having no death wish in my subconscious, I have survived—but with no help from "the State."

Society and "the State" were very late in instituting drivers' education courses in high school, which have been effective in reducing automobile accidents, as witness the lower insurance rates for those who have completed such courses. There is, at this time, no comparable state motorcycle safety education. The controversy about helmet laws obscures the real problem—lack of education.

As physicians, we advocate personal liberty and freedom of choice for ourselves and for our patients. The least government is the best government. PSRO, HSA, HEW and others are anathema to us, with their ever-mounting bureaucratic rules, regulations and paperwork. Freedom to choose a physician at large, rather than from a closed panel, is, we think, a basic right of the American patient. Freedom to treat a patient as we think best, within very loose guidelines, is the American physician's cherished heritage. These hallowed ideals stand in sharp contrast to our professional stand on vehicle safety. The motorcycle helmet issue becomes not head protection but personal freedom.

Duplicity, thy name is motorcycle helmets.

We physicians should either endorse both mandatory helmets for motorcyclists and mandatory seat

belts and shoulder harnesses for motorists, or we should endorse safety education for both groups so that they will *voluntarily* protect themselves. The House of Delegates of The Medical Society of Virginia has repeatedly voted to endorse mandatory helmets but has never voted to endorse mandatory seat belts and shoulder harnesses. Yet automobile seat belts and shoulder harnesses possess an even greater safety potential than motorcycle helmets. Automobiles outnumber motorcycles, and automobile casualties outnumber motorcycle casualties; more injuries and deaths could be prevented if all automobile occupants utilized seat belts and shoulder harnesses than if all motorcyclists wore helmets. (I am talking about an absolute number of people, not relative numbers or statistics.)

While deploring the intrusions of government into areas where government has no business, how can we as physicians support government intrusion into the alledged "sins" of a minority while ignoring the even greater "sins" of the majority? Are we to continue to resist unfair encroachment upon our own personal freedoms while endorsing that same encroachment upon the freedoms of others?

As not whose ox is gored, for next it may be thine!

HENRY S. CAMPELL, MD

Hospital Cancer Programs and Registries: What Good Are They?

FOR MANY of us, the word "program" makes us suspicious of possible bureaucratic maneuvers. It conjures up images of rules and regulations, extra paperwork, and loss of control by the individual physician. It is no wonder that we tend to shy away from those "programs" that are not mandatory parts of our medical lives. Hospital cancer programs reviewed and approved by the Commission on Cancer of the American College of Surgeons are an entirely different matter, however. This is a voluntary program with one major goal, that of decreasing the morbidity and mortality of cancer patients. Many hospitals in Virginia have now earned cancer program approval from the Commission on Cancer, and the purpose of this editorial is to encourage the expansion of this program to include all of the other hospitals in Virginia.

The guidelines for an approved cancer program vary according to the scope of the hospital's clinical activities, but the main elements of the program in all hospitals are these:

- A standing, active committee of multi-disciplinary composition and some "clout" in the hospital, responsible for identifying the needs and deficiencies in the cancer activities of the institution concerned and initiating appropriate actions.
- A patient-oriented cancer education program for physicians, nurses and other health care personnel, a program that utilizes and demonstrates the team approach to the cancer patient.
- An evaluation process for quality of cancer control received in the institution.
- A cancer surveillance and end-result data system that monitors the success or failure of treatment of patients in the individual hospital and ensures continued followup care of all patients undergoing treatment for cancer (e.g., tumor registry).

One can well imagine large differences in the scope of the treatment, equipment needs, staff needs, and educational programs between a 200-bed community hospital and a large medical school complex with tertiary care responsibilities and multiple training programs. For example, in some of the larger institutions, tumor registry activities may be a major commitment requiring the support of computer systems, while in a small community hospital this activity is represented by the part-time effort of a dedicated registrar. Whatever the size of the hospital, the cancer patient should have opportunities for consultation and care equal to those at any other institution, and that is the essence of this voluntary program.

Twenty-one hospitals in Virginia have gone through this process of review and approval. In each there is an approval certificate on display stating that this hospital has achieved the standards of this cancer program. What does this process entail?

Cancer program consultants from the Commission on Cancer of the American College of Surgeons will gladly assist your hospital cancer committee in the development of the essential elements of the cancer program at your institution. When the key aspects of the cancer program are developed, both a written and an on-site survey of the cancer program will be

accomplished, and the Approvals Committee of the Commission will decide regarding the status of the program. Even when approved, maintenance of the status will require reexamination of the program at three-year intervals. Although it is a "feather in the cap" to obtain approval status, questions might be raised as to the ultimate benefits of the program. What are they?

The real benefit of this program is to the cancer patients, since it assures that the systems, equipment, and resources needed for optimal cancer patient care are available through one method or another. Next, the requirements for fulfillment of the basic minimal standards of cancer patient care may encourage a change in the organization of patient-care delivery at that hospital, to the advantage of the system. The cancer program approval is also a sign of quality and achievement, and such approval may be a measure in the future by which suitability for other programs may be judged. This is one "program" that is admired because it is reviewed by representatives chosen from all of the oncologic disciplines and because it focuses on the modern-day team approach.

One cannot describe the cancer program of the American College of Surgeons without discussing the subject of a tumor registry. In past years, cancer program emphasis often was on the registry because this was the easiest aspect of the cancer program to evaluate objectively and it did have important contributions to make. Not only did the registry allow the physicians of a hospital to carry out self-evaluation of their care for cancer patients, but it provided a system for assuring continued followup of these patients. Although the other aspects of the program now receive more emphasis than they once did, the tumor registry is still considered an important component. In spite of this, tumor registries sometimes fall short in terms of their responsibility for optimum use of the data for educational means. This brings us to a discussion of our state registry, the Virginia Tumor Registry, as this program provides additional advantages to the hospital cancer program.

The Virginia Tumor Registry is a combination of all the individual tumor registries in the commonwealth that have voluntarily greed to collaborate by combining their hospital data in this State Health Department program. This program, initiated ten years ago under the auspices of the Virginia Regional Medical Programs, has slowly grown over the years to the point that approximately half of the cancer patients in Virginia are now registered in this computerized data bank. It received significant help from the Virginia Division of the American Cancer Society and the now defunct Virginia Regional Medical Programs prior to the time that the 1978 General Assembly appropriated the money for the Virginia State Department of Health to assume this role. The purposes of this computerized central registry include 1) determining means for improving diagnosis and treatment of cancer patients; 2) determining the need for a means of providing better long-term followup care of cancer patients; 3) collecting data to evaluate the possible carcinogenic effects of environmental hazards; 4) improving rehabilitative programs for cancer patients.

The Virginia Tumor Registry coordinates data collection in the hospital registry through training of hospital personnel and the development of procedures and policies which promote consistent and meaningful data for comparison to national figures. Participation in the central registry is at no additional cost of the hospital. This excellent state program under the direction of Mrs. Barbara Peace will grow in importance as more hospitals "join up". Hospitals representing all geographic areas of the state, from Winchester to Danville and Norfolk to Big Stone Gap participate. The larger the proportion of cancer patients in Virginia that are included, the greater the significance of the data for preventive aspects of cancer care as well as other aspects of cancer epidemiology. All of us in Virginia will benefit as additional hospitals join the Virginia Tumor Registry. As we come closer to complete reporting of cancer in Virginia, we become more capable of developing data of real health significance of Virginians. Once a hospital has determined it will establish a cancer program, the Virginia Tumor Registry will assist in the development of a tumor registry and aid in pursuing approval of the American College of Surgeons.

Elsewhere in this issue appears the annual report of The Medical Society of Virginia's Cancer Committee, in which Dr. William Old, chairman, sets forth a resolution for action by the House of Delegates at the annual meeting in Williamsburg next month. The resolution endorses the cancer program of the Commission on Cancer of the American College of Surgeons and encourages all hospitals to develop such programs and to participate in the Virginia Tumor Registry.

Those of us on the Cancer Committee of The Medical Society of Virginia expect support from the House of Delegates for this endorsement, but the real support that is needed is from you, the practicing physician. Please help get the cancer programs and tumor registries going in the hospital where you practice. As of us, physicians and patients, will profit as a result.

WALTER LAWRENCE, JR.

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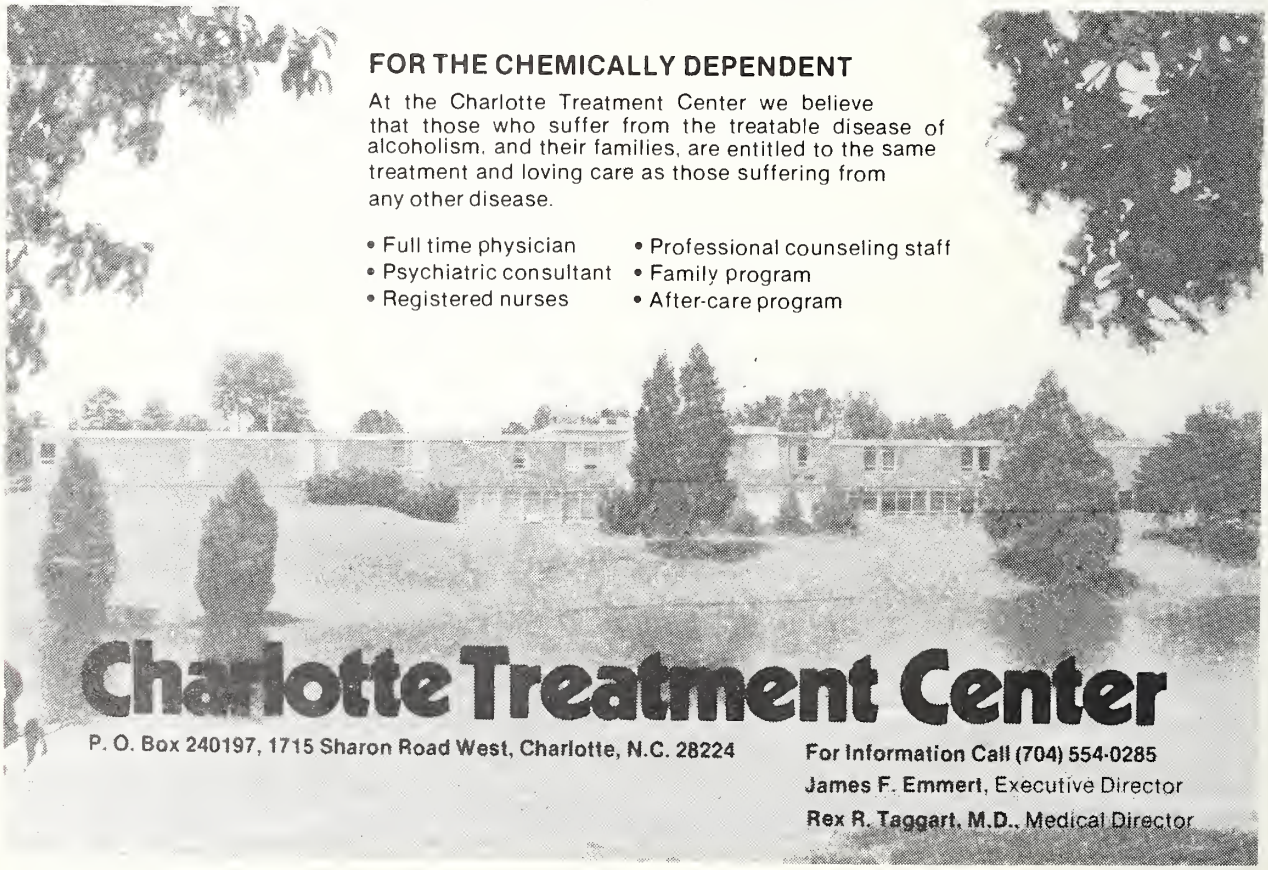
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VIRGINIA MEDICAL OBITUARY

C. Leonard Booker, MD

Dr. Carrington Leonard Booker, 71, whose family had been in medical practice in Northumberland County area since the late 1880s, died July 5 of prostatic cancer at Oak Knoll, his home in Lottsburg.

After studying at the College of William and Mary and the University of Richmond, Dr. Booker earned his medical degree at the University of Virginia, graduating in 1936. He and his father, the late Dr. Robert Eubank Booker, established the Booker Clinic and Booker Maternity Hospital in Lottsburg and shortly were joined in their general practice by Dr. Leonard Booker's brother, Dr. J. Motley Booker. The hospital was discontinued when general hospitals came into the area, and Dr. Motley Booker now carries on the clinic alone.

Dr. Leonard Booker had been a member of The Medical Society of Virginia for 43 years. He belonged also to the Northern Neck Medical Association, Virginia Association of Family Practitioners, and the Southern and American Medical Associations, and was a charter fellow of the American Academy of Family Physicians.

Charles H. Goodykoontz, Jr., MD

Dr. Charles H. Goodykoontz, Jr., died July 28 in a Bluefield hospital after a long illness. He was 70.

Born in Bluefield, Dr. Goodykoontz practiced there for 43 years. He was a graduate of Davidson College and the University of Pennsylvania. He had belonged to the McDowell and Tazewell County Medical Societies and was a member of The Medical Society of Virginia for 43 years.

William L. Griggs, Jr., MD

Dr. William L. Griggs, Jr., Gate City, died July 19 in the Holston Valley Community Hospital after a long illness. He was 70.

A native of Mars Hill, North Carolina, Dr. Griggs received his BA degree from Wake Forest College and his MD degree from the University of Maryland School of Medicine. On his retirement in 1978 he had been a general practitioner in Scott County for 45 years.

Dr. Griggs had been president of the Scott County Medical Society, had long served as the Scott County medical examiner and Selective Service physician, and for many years was team physician for the area's school system. In addition to The Medical Society of Virginia, he belonged to the American Medical Association and the American Academy of Family Practice.

Charles J. Devine, Sr., MD

Dr. Charles Joseph Devine, Sr., a past president of the Norfolk Academy of Medicine and a member of The Medical Society of Virginia for 60 years, died July 12 in a Norfolk hospital. He was 86.

Dr. Devine established his urological practice in Norfolk in 1920 after receiving degrees from Washington and Lee University and the Medical College of Virginia. He interned in 1917-1918 at what is now Norfolk General Hospital, then served for two years as an US Army medical officer. He had been chief of urology at Portsmouth Naval Hospital and president of the medical staffs of Norfolk General and Mt. Sinai Hospitals.

He belonged to the American Medical Association, the Tidewater and Virginia Urological Societies and the American Urological Association.

Edward C. Joyner, MD

Dr. Edward Carlisle Joyner, Suffolk, died August 6 in a Norfolk hospital. He had continued active in his general practice until shortly before his death.

A native of Suffolk, Dr. Joyner was graduated first from the College of William and Mary and then, in 1928, from the Medical College of Virginia. He was a founding member of the Suffolk-Nansemond County Tuberculosis Association and was instrumental in the acquisition of its first mobile chest X-ray unit.

Dr. Joyner came to membership in The Medical Society of Virginia 49 years ago through the Tri-County Medical Society. He belonged also to the American Academy of Family Physicians.

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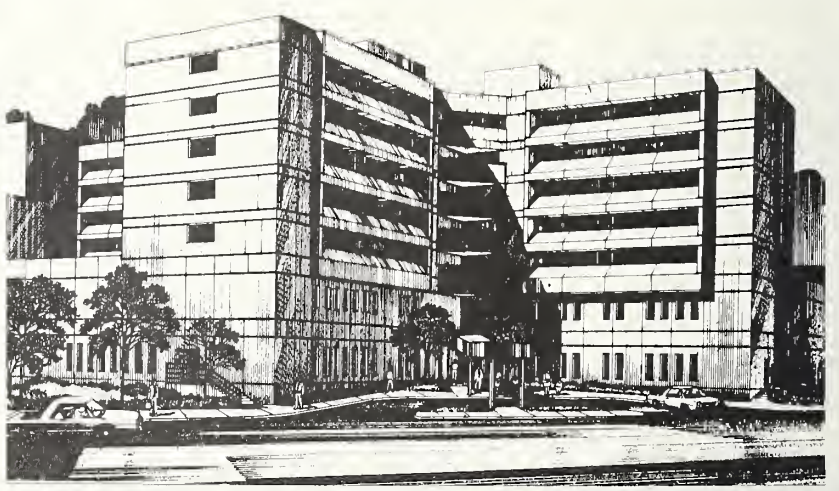
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WHO'S WHO IN VIRGINIA MEDICINE

Dr. James B. Jones, *Lynchburg* orthopedist and a past president of the Lynchburg Academy of Medicine, was elected president of the Association of Bone and Joint Surgeons during its recent annual meeting in Durango, Colorado. Dr. Jones has served as the association's historian and on its executive committee and is a long-time associate editor of *Clinical Orthopedics and Related Research,* the association's publication.

Dr. William L. Stone, III, *Arlington* internist and medical journalist, was the recipient this year of the Arlington County Medical Society's Welburn Award for outstanding service to medicine. Dr. Stone is editor of the *Medical Bulletin of Northern Virginia,* the splendid newspaper published quarterly by the Alexandria, Arlington County and Fairfax County Medical Societies, and is a member of the Editorial Board of VIRGINIA MEDICAL.

In *Leesburg,* **Dr. C. Gibson Dunn** has been appointed medical director of Springwood at Leesburg by the private psychiatric hospital board of directors.

For the many hours contributed to his community's boxing program and other youth activities, **Dr. James Foster Crosby,** *Chesapeake,* was honored recently by the Chesapeake Boxing Club and the city's Parks and Recreation Department. Dr. Crosby is the Club's ringside physician and examines the boxers prior to all matches. The ceremonial plaque presented to him to mark the occasion read "To boxing's friend and physician".

The Virginia Society of Ophthalmology and Otolaryngology at its meeting in Virginia Beach installed as president **Dr. Robert A. Jahrsdoerfer,** *Charlottesville,* and elected these officers: **Dr. Richard E. Gardner,** *Staunton,* president elect; **Dr. Waller L. Taylor, Jr.,** *Virginia Beach,* and Dr. **Albert L. Roper, II,** *Norfolk,* vice presidents, and **Dr. Claiborne G. Whitworth,** *Charlottesville,* secretary-treasurer.

Dr. Robert P. Nirschl, *Arlington,* who figures importantly in the article on page 675 of this issue, is program director of the postgraduate Tennis Medicine Symposium to be held January 16-17 in New York City under the sponsorship of the Georgetown University School of Medicine and Arlington Hospital. The course will coincide with the Volvo Grand Prix tennis tournament in New York January 15-18.

Dr. White McKenzie Wallenborn, *Charlottesville,* has been appointed by Governor John Dalton to the Virginia Council of the Deaf for a four-year term.

Norfolk's City Council has appointed **Dr. William F. Murphy, Jr.,** of *Norfolk,* to a three-year term on the board of commissioners of Eastern Virginia Medical School.

After devoting 46 of his 76 years to the practice of medicine, **Dr. J. Bernard Jones,** *Culpeper,* retired recently, happy in the prospect of plenty of time for the hunting and fishing that have long been his special pleasures.

A graduate of the Medical College of Virginia, Dr. Jones finished his internship during the depression years and joined the US Army Reserve, serving as a doctor for Central and Northern Virginia camps of the Civilian Conservation Corps. In 1936 he established his private practice in Culpeper but returned to the Army for service in the European theatre during World War II, emerging with the rank of major. He is a past president of the Culpeper County Medical Society.

Fellowship in the American College of Radiology has been conferred on **Dr. Earl Holmes,** *Waynesboro,* and **Dr. Forest G. Harper,** *Staunton.*

Dr. Mario Kuperminc, *Richmond,* has been elected second vice president of the American Radium Society and in that capacity will serve on the society's executive committee.

Dr. Gerald L. Mandell, *Charlottesville,* one of the speakers at the Annual Meeting's scientific sessions next month, has a triple winner in a book he co-edited. It is *Principles and Practice of Infectious Disease,* published by John Wiley & Son, and its three prizes came from the Association of American Publishers (R. R. Hawkins Award for most outstanding professional and scholarly book in 1979 and most outstanding book in the health sciences in 1979) and the American Medical Writers Association (honorable mention in the physicians category, medical book awards).

Dr. Mandell is head of the University of Virginia's division of infectious diseases. His co-editors were Dr. R. Gordon Douglas, Jr., University of Rochester School of Medicine and Dentistry, and Dr. John E. Bennett, National Institute of Allergy and Infectious Diseases.

"New Antibiotics" is the topic of Dr. Mandell's paper to be delivered before Medical Society of Virginia members at the Annual Meeting.

VIRGINIA MEDICAL CLASSIFIED

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VIRGINIA MEDICAL

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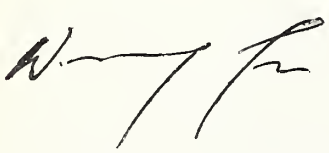
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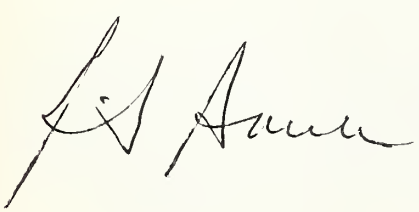
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DR. KINLOCH NELSON, whose peppery candor has long spiced the lives of his medical confreres in Virginia, has signatures on the brain, and they're all illegible. He called a VIRGINIA MEDICAL reporter into his office recently to describe the problem.

"Take a look at this," he said, thrusting a postcard at the visitor. "Can you read that signature?"

Typewritten on the card was a simple form, asking that the recipient check yes or no in answer to two short queries. At bottom a ruled line followed the word "Signed", and below the rule was the admonition to "Please print". Red ink slashed above and through this admonition, in a hieroglyphic cluster that had great dash but zero legibility.

"You can't read it?" Dr. Nelson asked."Of course not. You can't read it, I can't read it, nobody can read it. And I have a lot more here," he said, brandishing a bunch of the offenders.

"These are from doctors, you understand—doctors! How in the world do the pharmacists do it? Figure out all those prescriptions?" He flung the postcards onto his desk and himself into his chair.

"What a mess we've been through," he muttered.

The "mess" he refers to is the first of the continuing medical education reports now binding on Medical Society of Virginia members under the mandatory CME bylaw enacted in 1977. As director of the Society's education activities, Dr. Nelson presided over the debut of this reporting process early this year. Like most startups, it was a bit untidy, and Dr. Nelson is a man of testy precision. There was the rub.

Most abrasive of all was the signature situation. If a letterhead accompanied a doctor's declaration of credit hours, there was no problem of identity; fortunately for Dr. Nelson's mental health, most of the declarations of the 2,000 doctors in the first reporting group (surnames A through G) were so covered.

But the postcards, sent out by Dr. Nelson to those members who had not reported by the March 1 deadline, were devoid of such identification. Nor were the respondents pleased to print; indeed, all too often their cursive flourishes were as impenetrable as the inscriptions in Tutankhamen's tomb.

Ten of these mysterious hieroglyphs are reproduced here. Can you decipher any of them? Dr. Nelson will be forever grateful.

"I can't understand," Dr. Nelson mused, emerging from his gloomy review of the CME troubles he's seen, "I just can't understand why a person wants to have such an obscure 'trademark'. That's what a signature is, a person's trademark, his individuality, and he ought to be proud of it and lay it clearly on the line. I've known some knotheads who seem to think it's some kind of a status symbol to sign their names so you can't possibly read 'em. I don't get that at all."

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The Medical Society of Virginia's

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invites

the presidents of Virginia's component societies

and their spouses

to an informal symposium,

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on Saturday, November 22, 1980, at 10 o'clock

at Society headquarters

4205 Dover Road, Richmond,

and to a brunch

at 12 o'clock noon with Dr. and Mrs. Wootton

at their home, 17 Tapoan Road, Richmond.

J. Marshall Coleman, Virginia's Attorney General,

will be a special guest, and

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"A Portfolio of Presidents."

LETTERS TO THE EDITOR

Cheers for Rescinding "Bill of Goods"

Three cheers for the South Dakota State Medical Association for rescinding its continuing medical education requirement.[1] That association's House of Delegates quite properly declared that "CME should be encouraged but not required."

The medical societies across the country were sold a bill of goods by the Washington bureaucrats, who warned, in effect, that "if you don't establish this requirement voluntarily, we will force you to". There was no apparent need for this requirement at the time. Family practitioners and each of the specialties had already established academies to furnish continuing education for physicians. Required CME was established because of the threat from the Department of Health, Education and Welfare.

After four years of the requirement in South Dakota, the medical association there found no reason to continue it.

My guess is that The Medical Society of Virginia will reach the same conclusion—hopefully in less than four years.

E. Randolph Trice, MD

7702 Parham Road
Richmond VA 23229

1. Va Med News Bureau: Rest in peace. Va Med 107:537, 1980

Caution Flag Out on Surgery for Myopia

A new surgical technique to correct myopia has recently received wide publicity, and doubtless many patients are asking their physicians about "an operation to cure nearsightedness." As an ophthalmologist I advise my patients against this operation at this time. Other physicians might want to know my reasons.

Although the operation is relatively simple, consisting of radial incisions in the cornea to alter the corneal curvature, the techniques have not been standardized and the results are not predictable. The operation will decrease moderate to mild degrees of myopia but has no effect on astigmatism or hyperopia. The short-term complications include fluctuating vision and nocturnal glare problems. The long-term effects and complications are not known; return of myopia, progressive disease of the cornea, inability to see well with glasses or with contact lenses could be long-term complications.

Careful, scientific observations and long-term followup, first on animals and then on humans, has not been done. Several medical centers are preparing to do this. We will not know the full spectrum of potential problems or their lack for a few years.

Until basic investigative work is completed, caution is indicated.

Henry S. Campell, MD

PO Drawer 3151
Martinsville VA 24112

Changes in Disability Fees, Benefits

Under the 1980 Social Security amendments, which become effective December, 1980, physicians, hospitals, and other non-federal providers of medical evidence may now receive payment for medical reports requested for Social Security disability claims. Disability Determination Services has been able to offer payment for reports submitted for supplemental security income disability claims since that program

began in 1974. Now the programs are identical in this respect.

In addition, the 1980 Social Security amendments reduce some of the financial risks faced by disabled patients in attempting to work again in spite of their impairment. Under one of the changes, a person's Medicare protection can continue for up to three years after disability benefits stop.

Under the new law, Social Security also requires Disability Determination Services to review the entitlement of most disabled beneficiaries at least once every three years. For physicians this may mean additional requests for completing medical reports or requests for specific consultative exams—on patients who are getting social security or supplemental security income disability benefits. Meanwhile, Virginia Disability Determination Services is initiating innovative approaches in requesting medical evidence in order to alleviate physicians' "paperwork."

A new leaflet, "Recent Changes in Disability Programs," is now available to explain these important amendments to the Social Security disability insurance program and the disability provisions of the Medicare and supplemental security income programs. To receive a free copy, please telephone me at (804) 257-0186.

David C. Williams, MD

Chief Medical Consultant,
Disability Determination Services
4900 Fitzhugh Avenue, Richmond VA 23230

Virginia Law Limits Preprinted Prescriptions

Several pharmacists have complained that they occasionally receive preprinted prescriptions from physicians. Since Virginia statutes do not allow use of preprinted prescriptions for other than Schedule VI drugs, this creates a dilemma for the pharmacist, who may not wish to honor the prescription. Since both the physician and the pharmacist obviously desire to help the patient comply with his/her prescribed course of therapy without delay or interference, it would be helpful if these forms were not used.

I would appreciate it if you would kindly notify your members of this problem and ask that they use *handwritten* prescriptions only—legible ones, please—to keep in compliance with the law. Although these forms may be convenient for the physician, they may make it difficult for the patient to receive his/her medication.

Kenneth W. Schafermeyer, RPh

Executive Director,
Virginia Pharmaceutical Association

Proctitis Prompts a Poem

One of my more delightful patients was in for a physical examination the other day, following which I told him everything was quite normal except for slight obesity and very mild proctitis, and I also had occasion to remind him of the correct spelling of the word hemorrhoid. A few days later he sent me a poem he had written, and I here append it in the hope some of my colleagues may enjoy reading it.

Edward A. Zakaib, MD

7117 Jahnke Road
Richmond VA 23225

With thanks for all my time on earth
I view this flabby, mortal girth,
And celebrate the lab's result
That in my guts there's naught occult;
And when my sphincter gives a twitch,
A stab, a flash, or even itch,
Recalling, then, with some nostalgia,
Days of yore, before proctalgia,
I'll be reminded, with each void,
There are two Rs in hemorrhoid.

A Surgeon's Work Acknowledged

In the September issue of VIRGINIA MEDICAL you published our article entitled, "Gelfoam Embolization Complicated by Splenic Abscess."[1] We wish to acknowledge the work performed on this case by George J. Fleury, MD. He surgically removed the abscessed spleen and should have been included as an author.

Lawrence J. Eron, MD
Laurence Clark, MD

8318 Arlington Boulevard
Fairfax VA 22030

1. Eron LJ, Clark L: Gelfoam embolization complicated by splenic abscess. Va Med 107:624-626, 1980

MOVING SOON? HE NEEDS TO KNOW.

James L. Moore, the Medical Society of Virginia staff member who copes with the membership rolls (no mean task), asks your help, like this:

Early in December you will receive your 1981 membership card. If you are contemplating a change of address in November, please send Mr. Moore notice of that change, will you? So that your membership card will carry your new address. Your letter will find Mr. Moore at 4205 Dover Road, Richmond VA 23221.

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Dr. Percy Wootton, President Elect, The Medical Society of Virginia; Governor John N. Dalton; Dr. M. Pinson Neal, Jr.; Senator John W. Warner. At rear, Mrs. Wootton.

Auxiliary + Antiques = Classy Fund-Raiser

Fine antique furniture was the springboard to what has become one of the classiest fund-raising events in Virginia: the Annual Antique Show and Sale sponsored by the Auxiliary to the Richmond Academy of Medicine. Even now Richmond Auxilians are grappling with final arrangements for the 1981 show, to be held February 19 to 22 at the Greek Orthodox Church in Richmond's West End under the chairmanship of Mrs. John G. Cametas. These are scenes from the gala "Patrons Night" that previewed the show last February at the Hotel Jefferson in Richmond. Largest and most lucrative entry since the series was begun in 1963, the 1980 show attracted 47 dealers and yielded $15,000 for distribution to the Crippled Children's and Sheltering Arms Hospitals and other philanthropic projects. No doubt the 1981 version will surpass even this success, such is the diligence and imagination with which Richmond Auxilians nurture this big project.



Dr. George A. Knaysi and Mrs. Knaysi, chairman, Patrons Night.



Dr. and Mrs. Edward A. Zakaib.

Dr. William T. Johnstone
Mrs. Johnstone, chairman of the S





Dr. H. S. Zfass;
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Richmond Academy of Medicine.



Mrs. L. Arnold Frederick;
rs. Edward D. Martirosian,
ident, Richmond Auxiliary;
Dr. Paul R. McNeer.



Dr. and Mrs. H

Mrs. Coleman (center)
and Mrs. Dalton (right) with an unidentified guest.



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Use in ambulatory patients: Empirin with Codeine may impair the mental and/or physical abilities required for the performance of potentially hazardous tasks such as driving a car or operating machinery. The patient using this drug should be cautioned accordingly.

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Use in pregnancy: Safe use in pregnancy has not been established relative to possible adverse effects on fetal development. Therefore, Empirin with Codeine should not be used in pregnant women unless, in the judgment of the physician, the potential benefits outweigh the possible hazards.

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Head injury and increased intracranial pressure: The respiratory depressant effects of narcotics and their capacity to elevate cerebrospinal fluid pressure may be markedly exaggerated in the presence of head injury, other intracranial lesions or a pre-existing increase in intracranial pressure. Furthermore, narcotics produce adverse reactions which may obscure the clinical course of patients with head injuries.

Acute abdominal conditions: The administration of Empirin with Codeine or other narcotics may obscure the diagnosis or clinical course in patients with acute abdominal conditions.

Allergic: Precautions should be taken in administering salicylates to persons with known allergies; patients with nasal polyps are more likely to be hypersensitive to aspirin.

Special risk patients: Empirin with Codeine should be given with caution to certain patients such as the elderly or debilitated, and those with severe impairment of hepatic or renal function, hypothyroidism, Addison's disease, prostatic hypertrophy or urethral stricture, peptic ulcer, or coagulation disorders.

ADVERSE REACTIONS: The most frequently observed adverse reactions to codeine include light-headedness, dizziness, sedation, nausea and vomiting. These effects seem to be more prominent in ambulatory than in nonambulatory patients and some of these adverse reactions may be alleviated if the patient lies down. Other adverse reactions include euphoria, dysphoria, constipation, and pruritus.

The most frequently observed reactions to aspirin include headache, vertigo, ringing in the ears, mental confusion, drowsiness, sweating, thirst, nausea, and vomiting. Occasional patients experience gastric irritation and bleeding with aspirin. Some patients are unable to take salicylates without developing nausea and vomiting. Hypersensitivity may be manifested by a skin rash or even an anaphylactic reaction. With these exceptions, most of the side effects occur after repeated administration of large doses.

DOSAGE AND ADMINISTRATION: Dosage should be adjusted according to the severity of the pain and the response of the patient. It may occasionally be necessary to exceed the usual dosage recommended below in cases of more severe pain or in those patients who have become tolerant to the analgesic effect of narcotics. Empirin with Codeine is given orally. The usual adult dose for Empirin with Codeine No. 2 and No. 3 is one or two tablets every four hours as required. The usual adult dose for Empirin with Codeine No. 4 is one tablet every four hours as required.

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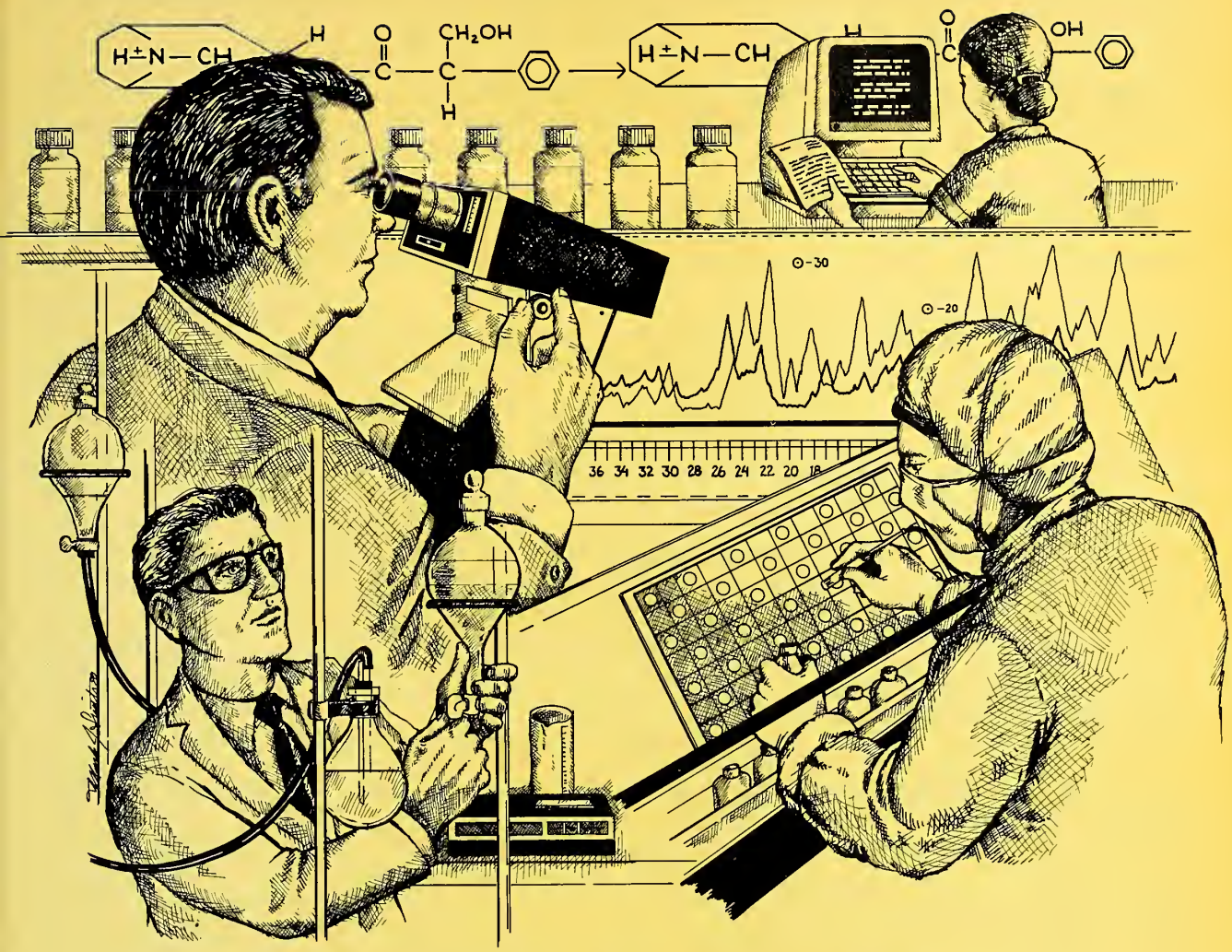
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MEETINGS

November 19
14th Annual William R. Whitman Memorial Lecture: "Meeting the Challenge of Cancer" (Lewis-Gale Medical Foundation), Hidden Valley Country Club, *Salem.* Robert F. Roth, MD, PO Box 44, Salem VA 24153, (703) 389-9107.

November 21-23
Critical Issues in the Health of the School-Aged Child (Medical College of Virginia), *Williamsburg.* 10 hrs. Cat. 1. Fee: MDs, $160; others, $80. Kathy E. Johnson, (804) 786-0496.

November 22
5th Annual Symposium on the Care of the Critically Ill Patient: Vascular Emergencies, Diagnosis and Treatment (Fairfax Hospital), Springfield Hilton, *Springfield.* Dr. Barry Newman, (703) 321-4255.

December 3-5
Recent Advances in Clinical Medicine (University of Virginia), *Charlottesville.* University of Virginia School of Medicine, Box 368, Charlottesville VA 22908, (804) 924-5318.

December 4-5
Advances in Obstetrics and Gynecology (Medical College of Virginia), Baruch Auditorium, *Richmond* 10 hrs. Cat. 1. Kathy E. Johnson, (804) 786-0496.

December 4-5
The Athlete: Risks of Injury and Sudden Death; Preventive and Therapeutic Considerations (American Heart Association, American Academy of Orthopaedic Surgeons, American College Health Association, American College of Sports Medicine, American College of Chest Physicians, American Academy of Family Physicians), Grand Hyatt Hotel New York, *New York City.* 19 hrs. Cat. 1. Fee: members, $225; non-members, $275; house officers/fellows, $100. American Association, Scientific Sessions, 7320 Greenville Ave., Dallas TX 75231.

December 5
R. Carl Bunts Memorial Lectureship in Urology (Medical College of Virginia), *Richmond.* 6 hrs. Cat. 1. Kathy E. Johnson, (804) 786-0496.

December 5-6
First Statewide Emergency Medical Services Symposium (State Health Department; Virginia Chapters of the American College Emergency Physicians and American College of Physicians; Emergency Department Nurses Association; The Medical Society of Virginia; Virginia Division American Trauma Society; Virginia Emergency Medical Technicians Association; Virginia Association Volunteer Rescue Squads), Fort Magruder Conference Center, *Williamsburg.* Fee: $15. Mrs. Mary Camp, (804) 786-5180.

December 5-6
Advances in Hematology (University of Maryland), *Baltimore.* Betty B. Saar, (301) 528-3956.

December 7-10
Coronary, Hypertensive, Valvular and Myocardial Heart Diseases: Multi-Disciplinary Approach (American College of Cardiology), Williamsburg Lodge, *Williamsburg.* American College of Cardiology, 9111 Old Georgetown Road, Bethesda MD 20014.

December 12
Low Back Pain (Medical College of Virginia), *Williamsburg.* 6½ hrs. Cat I. Fee: $80. Kathy E. Johnson, Box 48, MCV Station, Richmond Va 23298, (804) 786-0494.

January 9-10
Sports Medicine—East Tennessee Invitational Track Meet (East Tennessee State University College of Medicine), *Bristol.* 8 hrs. credit. Fee: $40. Shirley Bogart, (615) 928-6426, Ext. 204.

January 12-15
Alton D. Brashear Postgraduate Course in Head and Neck Anatomy (Medical College of Virginia), *Richmond.* 40 hrs. credit. Fee: $250. Hugo R. Seibel, Box 709, MCV Station, Richmond VA 23298, (804) 786-9530.

January 12-17
Emergency Medical Service Systems and Trauma Center Development (University of Maryland) *St. Thomas, Virgin Islands.* Betty B. Saar, 10 South Pine Street, Baltimore MD 21201, (301) 528-3956.

January 15-17
Critical Care Medicine Symposium (University of Virginia), *Charlottesville.* University of Virginia Medical Center, Box 368, Charlottesville VA 22908, (804) 924-5318.

January 22-23
John M. Nokes Lectureship in Obstetrics and Gynecology (University of Virginia), *Charlottesville.* University of Virginia Medical Center, Box 368, Charlottesville VA 22908, (804) 924-5318.

January 22-23-24
Annual Meeting of the Neurosurgical Society of the Virginias *Hot Springs, Virginia.* Albert S. Loew, Jr., 3500 Queen Street, Portsmouth VA 23707.

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Movement Disorders (University of Maryland), *Baltimore.* Betty B. Saar, 10 South Pine Street, Baltimore MD 21201, (301) 528-3956.



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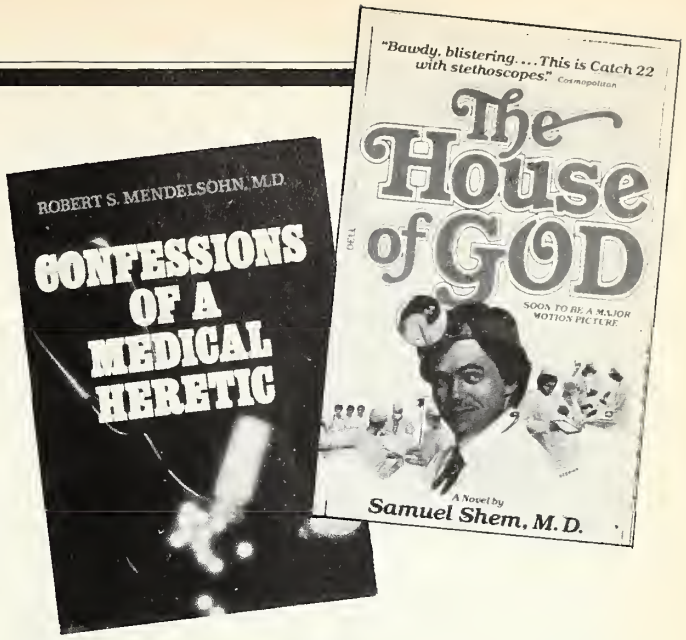
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BOOKS

The House of God, by Samuel Shem, MD. New York, Richard Marek Publishers, 1978

The Confessions of a Medical Heretic, by Robert Mendelsohn, MD. Chicago, Contemporary Books, Inc., 1979.



"Physician, heal thyself" (Luke 4:23) is an admonition as appropriate today as it was twenty centuries ago. Modern medicine has blossomed so quickly that it is on the verge of becoming an uncontrollable monster. Technological breakthroughs have become so important to physicians that the patient is often the last to be considered in any "medical decision." Recently I overheard two colleagues discussing whether or not a patient needed bronchoscopy and computerized tomography of the chest. One remarked, "If it makes you feel better, I'd do it." The patient's welfare or the risks associated with the procedures were not mentioned; the main concern was not for the patient but for the physician's conscience. Sadly, similar scenarios are repeated daily in the hallways of our most revered medical centers.

This aspect of modern medical practice, as well as other similar topics, has been addressed in two books by physicians with diametrically opposing styles. Dr. Robert Mendelsohn, an associate professor of preventive medicine and community health at the University of Illinois, and Dr. Samuel Shem, a pseudonym for a Boston psychiatrist, have written two interesting, informative, and inflammatory comments on the present state of modern medicine.

In *The Confessions of a Medical Heretic*, a book geared toward the lay public, Dr. Mendelsohn draws heavily from previously published, uncomplimentary facts about the medical profession. To him, "the greatest danger to [the patient's] health is the doctor who practices modern medicine." "Modern medicine" is an idolatrous religion whose God is death and the patient-physician relationship is that of slave-master. "I believe that more than 90% of modern medicine could disappear from the face of the earth—doctors, hospitals, drugs, and equipment—and the effect on our health would be immediate and beneficial", states Mendelsohn. For example, he notes that in two separate physician strikes, death rates dropped precipitously, but the rate promptly returned to "normal" a few weeks after the physicians went back to work.

Dr. Mendelsohn discusses at length the adverse influences of modern medical training—a high suicide rate, early divorce and psychological disturbances in an estimated one in every 20 doctors. He points out that we fill our medical schools with persons who are overly goal-oriented, train them with the fear of rejection, isolate them from society, allowing them to develop an elitist philosophy, and release them to an unprepared and utterly helpless public.

Not since Ivan Illich's *Medical Nemesis* has there been such a scathing denouncement of what Dr. Mendelsohn calls the "elite of America." Until some sweeping changes are made, he concludes, clearly outlining these changes and discussing them in depth, the present problems of education and medical practice are likely to continue.

Dr. Shem, on the other hand, uses a rich and vivid narrative in *The House of God* to describe his year of internship in a prominent Boston hospital. Contrary to Dr. Mendelsohn's serious and sober reflections, Dr. Shem views the medical establishment with an hilarious, irreverent, and often macabre perspective. His black comedy is set in a typical tiertiary care center governed by thirteen commandments such as: "*Gomers* don't die," "Age and BUN = Lasix dose," and "The only good admission is a dead admission." According to the 13th and final commandment, "The delivery of medical care is to do as much nothing as possible," and the medical interns are caught in a round robin of "buffing" and "turfing" (i.e., transferring patients to other services as quickly as possible).

The story is replete with the stereotypes who control the gigantic monster, the tiertiary care center—the heavy-handed head nurse, the sex-starved nursing student, the totally preoccupied "terns" (interns),

the jealous, bickering "slurpers" (academicians), and even the meaty maintenance personnel who "serve" the overworked and underfed housestaff. During his first year, Dr. Shem spends most of his time gathering inane, useless facts and trying to keep his superiors "off his back." His is a world of buttons, gadgets, telephones and screens—not of people and personal interaction.

To maintain sanity in such a shocking environment, doctors must be callous and harsh, like The Fat Man, Shem's hero and first resident. This wiley, wordly, rotund character plans to settle in Hollywood, the "bowel run of the stars," after a gastroenterology fellowship. Surreptitiously operating a personal outpatient clinic, he has developed "Dr. Jung's anal mirror", which allows a patient to view his own "bottom part" and anticipates making an early million from scores of protological converts. Commenting on ward activity, he cautions the interns about the inherent dangers in being too aggressive with their patients. "If you don't do anything to them, they can't do anything to you," he states. Any house officer who has completed a year of internship within the past decade will certainly empathize with parts of this tragicomic but realistic story.

Many of our patients will undoubtedly read one or both of these books. We may be asked to confirm or deny these accounts, and it is important, therefore, that we read them. Neither will make the physician happy who is proud of his profession and sees himself as helping his fellow man. Many will rightfully question Mendelsohn's statistical bias and Shem's farcical exaggeration. But any doctor who is minimally introspective and has grappled with the issues of megatechnology in medicine will respond to the issues confronted in both books. Anyone, physician or layman, who has witnessed and questioned the moral virtue of prolonging the agony and suffering of an obtunded 90-year-old in the intensive care unit with tubes or lines in every accessible vein, artery, or orifice, will take note. Perhaps the medical profession should begin close examination of an increasingly unwieldy industry controlled by expensive x-ray machines, cardiac monitors and bypass pumps. The underlying theme behind the alarmist proclamation of Mendelsohn and the macabre comedy of Shem merely reiterates an important tenet of medicine: The patient, lest we forget, should be our primary concern.

THOMAS L. POPE, JR., MD

Department of Radiology
School of Medicine, University of Virginia
Charlottesville VA 22908

CYCLAPEN®-W (cyclacillin)

Indicotions
Cyclacillin has less in vitro activity than other drugs in the ampicillin class and its use should be confined to these indications: Treatment of the following infections:
RESPIRATORY TRACT
Tonsillitis and pharyngitis caused by Group A beta-hemalytic streptacacci
Branchitis and pneumania caused by *S. pneumaniae* (farmerly *D. pneumaniae*)
Otitis media caused by *S. pneumaniae* (farmerly *D. pneumaniae*) and *H. influenzae*
Acute exacerbation of chronic bronchitis caused by *H. influenzae**
*Though clinical improvement has been shown, bacterialagic cures cannot be expected in all patients with chronic respiratory disease due to *H. influenzae*.
SKIN AND SKIN STRUCTURES (integumentary) infections caused by Group A beta-hemalytic streptacacci and staphylacacci, nanpenicillinase praducers.
URINARY TRACT INFECTIONS caused by *E. coli* and *P. mirabilis*. (This drug should not be used in any *E. coli* and *P. mirabilis* infections other than urinary tract.)
NOTE: Perform cultures and susceptibility tests initially and during treatment to manitor effectiveness af therapy and susceptibility af bacteria. Therapy may be instituted prior to results of sensitivity testing.
Controindicotions Controindicated in individuals with history of an allergic reaction to penicillins.
Wornings Cyclocillin should only be prescribed for the indicotions listed herein.
Cyclocillin hos less in vitro octivity thon other drugs of the ompicillin closs. However, clinicol triols demonstroted it is efficocious for recommended indicotions.
Serious ond occosionol fotol hypersensitivity (onophyloctoid) reoctions hove been reported in potients on penicillin. Although onophyloxis is more frequent following porenterol use, it hos occurred in potients on orol penicillins. These reoctions ore more opt to occur in individuols with history of sensitivity to multiple allergens. There ore reports of potients with history of penicillin hypersensitivity reoctions who experienced severe hypersensitivity reoctions when treoted with o cepholosporin. Before penicillin therapy, corefully inquire obout previous hypersensitivity reoctions to penicillins, cepholosporins ond other allergens. If allergic reoction occurs, discontinue drug ond initiote oppropriote therapy. Serious onophyloctoid reoctions require immediote emergency treotment with epinephrine. Oxygen, I.V. steroids, oirway monogement, including intubotion, should olso be odministered os indicoted.
Precoutions Pralanged use of antibiotics may promote avergrowth of nonsusceptible organisms. If superinfection occurs, take appropriate meosures.
PREGNANCY: Pregnancy Categary B. Repraduction studies performed in mice and rats at doses up to 10 times the human dase revealed no evidence af impaired fertility or harm ta the fetus due ta cyclocillin. There are, however, na adequate and well-controlled studies in pregnant women. Because animal repraduction studies are not always predictive af human respanse, use this drug during pregnancy only if clearly needed.
NURSING MOTHERS: It is not known whether this drug is excreted in human milk. Because many drugs are, exercise caution when cyclocillin is given to a nursing waman.
Adverse Reoctions Oral cyclacillin is generally well toleroted. As with ather penicillins, untoward sensitivity reoctions are likely, particularly in those wha previously demonstroted penicillin hypersensitivity ar with history of allergy, asthma, hay fever, ar urticaria. Adverse reoctions reparted with cyclacillin: diarrhea (in approximotely 1 out of 20 potients treated), nouseo and vamiting (in approximotely 1 in 50), and skin rash (in appraximately 1 in 60). Isolated instances of headache, dizziness, abdaminal pain, vaginitis, and urticaria have been reparted. (See WARNINGS) Other less frequent adverse reactians which may occur and are reported with other penicillins are anemia, thrombacytapenia, thrombacytapenic purpura, leukopenia, neutrapenia and eosinophilia. These reactians are usually reversible an discantinuation of therapy.
As with other semisynthetic penicillins, SGOT elevations have been reported.
As with antibiotic therapy generally, continue treatment at least 48 ta 72 hours after patient becames asymptomatic ar until bacterial eradication is evidenced. In Group A beta-hemalytic streptococcal infections, at least 10 days' treatment is recammended to guard against risk af rheumatic fever ar glamerulanephritis. In chronic urinary tract infection, frequent bacterialagic and clinical appraisal is necessary during therapy and passibly for several manths after. Persistent infection may require treatment far several weeks.
Cyclocillin is nat indicated in children under 2 manths of age.
Patients with Renal Failure Cyclacillin may be safely administered ta patients with reduced renal function. Due to prolonged serum half-life, patients with variaus degrees of renal impairment may require change in dosage level (see DOSAGE AND ADMINISTRATION in package insert).
Dosage (Give in equally spaced doses)

INFECTION	ADULTS	CHILDREN*
Respiratory Tract		
Tonsillitis & Pharyngitis	250 mg q.i.d.	body weight < 20 kg (44 lbs) 125 mg q.i.d. body weight > 20 kg (44 lbs) 250 mg q.i.d.
Bronchitis and Pneumonia		
Mild or Moderate Infections	250 mg q.i.d.	50 mg/kg/day q.i.d.
Chronic Infections	500 mg q.i.d.	100 mg/kg/day q.i.d.
Otitis Media	250 mg to 500 mg q.i.d.†	50 to 100 mg/kg/day†
Skin & Skin Structures	250 mg to 500 mg q.i.d.†	50 to 100 mg/kg/day†
Urinary Tract	500 mg q.i.d.	100 mg/kg/day

*Dosage should not result in a dose higher than that for adults.
†depending on severity

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Indications: Management of anxiety disorders, or short-term relief of symptoms of anxiety; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders; athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy)

The effectiveness of Valium (diazepam/Roche) in long-term use, that is, more than 4 months, has not been assessed by systematic clinical studies. The physician should periodically reassess the usefulness of the drug for the individual patient.

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma, may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms similar to those with barbiturates and alcohol have been observed with abrupt discontinuation, usually limited to extended use and excessive doses. Infrequently, milder withdrawal symptoms have been reported following abrupt discontinuation of benzodiazepines after continuous use, generally at higher therapeutic levels, for at least several months. After extended therapy, gradually taper dosage. Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence.

Usage in Pregnancy: **Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported, should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

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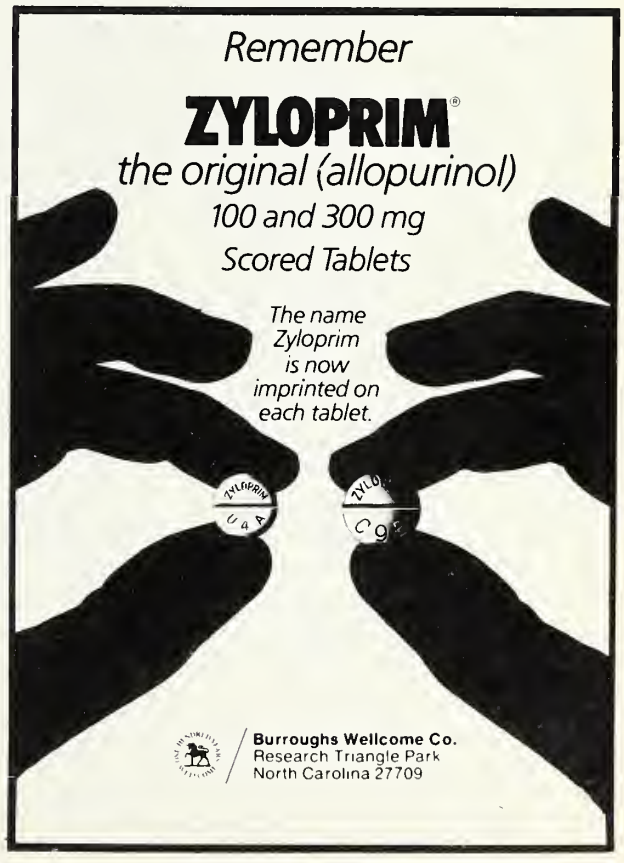
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President Woodrow Wilson looks up New York Bay on July 8, 1919, as the USS George Washington brings him home from the Versailles Peace Conference. Three months later he was stricken with the acute urologic episode described in these pages. Standing in naval uniform behind Wilson is his personal physician, Dr. Cary T. Grayson. *Army Signal corps photograph courtesy of the Woodrow Wilson Birthplace Foundation.*

VIRGINIA MEDICAL
NOVEMBER 1980

The President's Dilemma, 1919

John H. Texter, Jr., MD, *Richmond, Virginia*

"Dr. Young was shocked at Wilson's appearance as he lay in bed, toxic and only partially responsive. It had been 30 hours since any urine had been removed, and the bladder was now so greatly distended that the swelling was apparent some distance from the bedside."

WORLD WAR I ended on November 11, 1918. The 28th President of the United States, a Democrat, Thomas Woodrow Wilson, was in his second term of office.

Born in Staunton, Virginia, on December 28, 1856, Wilson came from a long line of Presbyterian clergymen but was destined to be an educator and politician. Receiving his PhD degree in American history, economics and government from Johns Hopkins University in 1885, he went on to become a college instructor, then professor, and, ultimately, in 1902, the president of Princeton University. In 1910, he entered politics and became Governor of New Jersey. Two years later he was the President of the United States.

Wilson was plagued by illness all his life. From age 8 he wore glasses, and his eyes were described as having been weakened by a severe attack of measles. At age 21 he had a hemorrhoidectomy and postoperatively developed phlebitis. There was a recurring problem with indigestion and splitting headaches, and at age 37 he suffered a spontaneous retinal hemorrhage of the right eye. The following year a sudden cramp developed in the right arm, partially paralyzing this extremity and forcing him to learn to write with his left hand. At age 48 a left retinal detachment occurred, and soon further weaknesses and paralysis of the right extremity were noted. Finally, in 1907, he suffered a rather severe nervous breakdown requiring a recovery trip to Bermuda.

But when, in December 1918, President Wilson departed from Washington to attend the Versailles Peace Conference, his general health seemed to be good. His physician, Dr. Cary T. Grayson, voiced misgivings about the strains and stresses of such a lengthy trip abroad; Wilson, however, was eager to attend the conference. The trip across the Atlantic was unmarred by medical problems, but as Dr. Grayson had feared, participation in the conference during the next two months taxed Wilson beyond his reserves. His resting hours were limited by the constant activity, and then were interrupted by his old indigestion problem and blinding headaches. There was evidence of twitching in one eye and increasingly evident muscular spasms of the face. Finally, on April 13, 1919, he became extremely ill, with a high fever and coughing. For three days Wilson remained

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Submitted 9-24-79.



At the right is the "birthing room" in which Woodrow Wilson was born on December 28, 1856. His mother labored on the heavy-postered bed; the baby spent his first months in the crib beside it; beyond is the nursery for his two elder sisters. This is a "winter bedroom" on the first floor of the Staunton, Virginia, birthplace; during cold weather, the upper rooms were closed off to conserve heat. This picture illustrates the recent renovation of the house's interior; all "Victorianisms" were removed, and a great deal of furniture and accessories of appropriate vintage were acquired and installed in settings faithful to the era.

All photographs of the birthplace were graciously provided by the Woodrow Wilson Birthplace Foundation and are reproduced here by permission.

in bed, unable to take any nourishment and dehydrated by violent episodes of diarrhea. This episode was the 1918 influenza, as diagnosed by his physician, but the evidence strongly suggests that cerebral vascular insufficiency may have been a factor. It is clear that after this febrile illness Wilson suffered personality changes which were commented on by one of the White House ushers, Ike Hoover, in his memoirs. He became obsessed with the idea that spies were watching him and insisted that members of his own staff had betrayed him by leaking information to his enemies. The most striking result of his condition was his decision to return to Washington. There, reports of his physical condition said only that he was tired, worn and pale. There is no recorded suggestion of any urologic problem.

Soon after returning to the United States, President Wilson made plans to travel across the country to convince the nation of the urgent need to join the League of Nations. He began his trip on the presidential train, the Mayflower, and was soon plagued by throbbing headaches, double vision, and difficulty articulating his words during the endless speeches given from the rear platform of the train. The trip was abruptly terminated on September 25, 1919, when, shortly after giving a speech at Pueblo, Colorado, he suffered a definite stroke. His vision failed and the left side of his face became flaccid. Saliva drooling from the corner of his mouth was noted. Speech became almost impossible. Over the next several days, as he traveled back to Washington, there was gradual improvement in his neurologic condition, and by the time he reached Washington, he was able to walk without assistance from the train to a waiting car. Over the next several days, his condition continued to improve as he recuperated and rested within the White House.

But, on the morning of October 2nd disaster struck again, this time with devastating results. After hearing a loud, crashing noise in the bathroom, Mrs. Wilson and Dr. Grayson found the President lying on the bathroom floor. He was completely paralyzed on his left side. The situation was described by Dr. Grayson: "The crash came. He fell stricken with the thrombosis. A clot had formed in the artery of the brain".

DURING the first few days following this major paralytic stroke, there was some question as to whether or not Wilson would live, and Dr. Grayson called on a number of eminent medical men, including Dr. H. L. Fowler of Johns Hopkins and the fa-



The Presbyterian manse in which Woodrow Wilson was born was built in 1846 and is situated on a hillside, permitting three full stories in the rear, with the double portico and Doric columns found in many Southern mansions.

In the 1919 Pierce-Arrow shown below, President Wilson and his wife took their "leisurely automobile ride around Washington" every afternoon when he was well. Wilson purchased this car himself, a refreshing note in this era when fleets of official motor cars are financed by the taxpayer. Maintained in mint condition by the Birthplace Foundation, it is shown here at the curb before the front door of Wilson's birthplace.





mous Dr. Charles Mayo. At the end of a week, the President's general condition seemed to be slightly better, although there was still no movement on the left side of his body. He was able to take some nourishment and acknowledge questions directed to him by his wife.

Then, as he neared his second week of recovery, it was noted for the first time that the President was having difficulty emptying his bladder, and within several days urination became impossible. Gradual but continued bladder distention was recorded. On the 15th of October, Dr. Grayson became gravely concerned when no further urine was passed per urethra; he introduced a urethral catheter, which he found "a little difficult", but with persistence he eventually succeeded in emptying the President's bladder. There is no record or mention of the residual urine or character of the urine removed from the bladder at that time. When the catheter was removed, it was again noted that no further urine was passed per urethra. The following day Dr. Grayson tried once again to instrument the urethra, but then even the smallest catheter could not be passed into the bladder. Dr. Grayson's note describes the general condition of the President as having deteriorated somewhat; he was now febrile, seemed to be quite uncomfortable and his pulse was no longer as strong and regular as it had been. Dr. Fowler made several attempts at passing a catheter into the President's bladder, was finally successful and once more the urine was drained. Dr. Fowler felt the catheter should not be left in place.

The following day, the 17th of October, the President was again in urinary retention. He had passed no urine since the last catheterization by Dr. Fowler, and his temperature remained quite high. This time Dr. Fowler was unable to pass a catheter despite repeated attempts, and Dr. Hugh Hampton Young, then in charge of urologic surgery at the Johns Hopkins Hospital, was called in. Dr. Young was shocked at the appearance of the President as he lay in bed, toxic and only partially responsive. It had been 30 hours since any urine had been removed from the bladder, and it was now so greatly distended that the swelling was apparent some distance from the bedside.

Considering the previous instrumentations of the urethra and Dr. Fowler's failure to pass a catheter into the President's bladder at the last manipulation, Dr. Young thought it advisable to make no further attempts to drain the urine per urethra. He considered the possibility of a "median line abdominal incision to open the bladder and relieve the terrific distention", which would suggest a current-day suprapubic cystotomy. However, Dr. Young describes being greatly concerned about the advisability of performing such an operation because of the President's weakened condition. He recalled that during World War I the British Medical Corps had performed many such bladder operations on soldiers with spinal cord wounds complicated by urinary retention, but a review of the hospital statistics showed most of these patients subsequently died of infection; in fact, the American Expeditionary Forces Medical Corps had cautioned against such operations, saying that the patients would eventually void spontaneously as the bladder pressure increased and forced open the bladder neck. Dr. Young states that he therefore advised no operation for the President and recommended that he and Dr. Fowler take a leisurely automobile ride around Washington as they waited for the President's greatly distended urinary bladder to empty spontaneously. It is of note that during the ride, both Dr. Young and Dr. Fowler made purchases of several urologic instruments that had not yet been tried on the President, perhaps in preparation for further urethral or bladder manipulation, should it become necessary.

Mrs. Wilson's description in her memoirs of sick room events differs considerably from those given by Dr. Young. She states that Dr. Young made repeated attempts to dilate the muscles forming the contracture of the bladder in the hope that the urine could be drained. "He failed," and felt there must be immediate surgery. Mrs. Wilson replied flatly, "We will not operate. I feel that nature will finally take care of things, and we will wait". Upon hearing these comments, Mrs. Wilson says, Dr. Young removed a pencil and pad from his pocket and began drawing diagrams to explain the problem and convince Mrs. Wilson why surgery was essential. Again the reply was no. As she returned to leave the room, she relates, Dr. Young called to her saying "You understand, Mrs. Wilson, the whole body will become poisoned if this condition lasts an hour or, at most, two hours longer".

Despite whose decision it was to wait and let nature take its course, the decision appears to have been the correct one. After what must have been a long wait, with the President in increasing agony, bedsheets were suddenly noted to be wet for the first time in several days, and when new bedsheets once again became wet, it was certain there was urine draining from the bladder. Urine drainage continued at periodic intervals until within several days the distention had markedly lessened and the President's general condition improved. Although he was incontinent of urine for several weeks, within a few

months he returned to a fairly normal voiding pattern. No further instrumentation of the urethra was necessary nor attempted. Wilson was gradually able to resume some of his duties as President, although he was still confined to the area of the White House and remained in semi-seclusion. He was never able to use completely his left arm, nor was he able to use eating utensils with the paralyzed hand.

He continued to hold the office of President until the completion of his term and the inauguration in the spring of 1921, when Warren Harding took office. There was no further mention of voiding problems or the need for catheterization and, indeed, no mention that he was ever incontinent during that period of time. Although he made occasional public appearances and each afternoon took his leisurely automobile ride around Washington, the President and Mrs. Wilson remained in seclusion. The President died quietly on February 3, 1924. Considering his many medical problems, it is amazing that he not only survived until 1924, but was able to attend the funeral of his successor.

IT is interesting to speculate how we would diagnose Wilson's urologic disease today. Mrs. Wilson speaks of a bladder "contracture," as related to her by Dr. Young. Today we diagnose a contracture of the bladder neck or proximal prostatic urethra as the result of fibromuscular tissue. Although uncommon, it does occur either as a congenital malady or as secondary fibrosis and scar formation resulting from instrumentation or previous transurethral resection of the bladder neck. Since the patient apparently had no symptoms prior to his stroke and was never instrumented prior to the urinary retention, a bladder contracture could be reasonably ruled out.

Could the President have suffered from an ordinary urethral stricture? This scarring usually develops over a relatively long time span; since Wilson had no prior symptoms or cause for such disease, stricture of the urethra seems remote. There had been vicious rumors that the President had some strange form of veneral disease, accounting for his headaches and various neurological afflictions. The only form of veneral disease which would produce this type of disorder would be tertiary syphilis involving the central nervous system, for syphilis does not ordinarily cause any urethral stricture such as one sees with gonorrhea. If one views the President's history and fastidious lifestyle, contact with any form of veneral disease seems impossible. And ruling out this possibility is the laboratory report found in Dr. Grayson's records; the doctor had obtained a blood test to check for veneral disease (most likely a forerunner of our present day serologic test for syphilis) and the test was negative.



From the Johns Hopkins Hospital to President Wilson's bedside came Hugh Hampton Young, MD, the distinguished urologist whose portrait is reproduced above. Born in Texas, Dr. Young came to Virginia to attend the Military Academy in Staunton, where Wilson was born; from there, on a $500 scholarship, he went to the University of Virginia, where he earned bachelor, master, and medical degrees. Dr. Young was president of the American Urological Association in 1909 and from 1917 until his death in 1945 was editor-in-chief of the *Journal of Urology*. *Courtesy of Johns Hopkins Medical School; reproduced by permission.*

Further evidence against the urethral stricture would be the fact that on the 15th day of October, a urethral catheter was passed into the bladder by Dr. Grayson, and a second catheterization was performed by Dr. Fowler on the following day. Both would have dilated the stricture, which is the correct treatment for such disease and would insure resumed urination. This did not occur.

Did the patient have prostatic enlargement, known as benign prostatic hyperplasia? He was 60 years of age at the time his illness began, the time a male may experience some early signs of prostatism, and this condition can produce fairly sudden obstruction and urinary retention with few if any preceeding symptoms. It would also explain the difficulty with attempts at repeated urethral catheterization, but it

Wilson: A Geographical Distinction

Of the eight native Virginians who have attained the presidency of the United States, only one was born west of the Blue Ridge Mountains, and he was Thomas Woodrow Wilson, born in Staunton, Virginia, and President from 1913 to 1921.

The other US Presidents who were born in Virginia are George Washington, Thomas Jefferson, James Madison, James Monroe, William Henry Harrison, John Tyler, and Zachary Taylor.

does not completely fit the President's subsequent recovery and the regained ability to urinate normally, although occasionally an individual with rather severe prostatism may return to normal voiding without surgery if the gland has an opportunity to reduce in size from swelling and the bladder is prevented from decompensating.

Could President Wilson have had a form of well differentiated cancer of the prostate which would grow slowly and even without treatment allow him to live for another three years? Of this, one can only speculate.

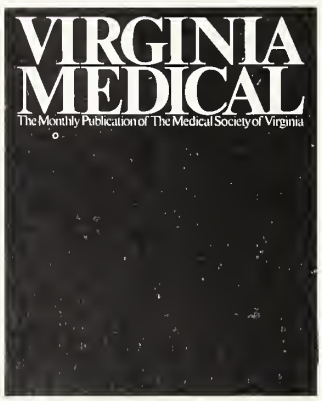
The fourth and most likely explanation for the retention would be as a result of the paralytic stroke itself. After such a massive cerebral vascular accident, alteration of the innervation to the urinary bladder is common, rendering it incompetent to void. But why would the retention develop nearly two weeks after the October 2nd stroke, rather than immediately? Here again such manifestations are not unknown; they may well represent additional resolution of the ischemic brain, producing delayed retention. All the facts point to a hypotonic or partially flaccid bladder caused by the stroke and superimposed on mild or moderate degree of prostatism; with the initial and subsequent instrumentations, further edema developed, making catheterization impossible. It is even possible that one or more false passages may have been made during the manipulation, hindering further passages.

No matter who was responsible for the treatment in this case, it appears to have been correct. Or perhaps the President was just plain lucky. Some of the problems could have been eliminated if the catheter had been left indwelling or taped in position following the first successful catheterization. The note describes the fever and rapid pulse rate associated with a toxic appearance and suggests that President Wilson had Gram-negative bacteriemia and sepsis in addition to his acute urinary retention; this was probably aggravated and worsened by further unsuccessful attempts to catheterize the bladder. The present day urology resident would be ill advised to remove a catheter after it has been successfully placed into the bladder of a patient with retention and sepsis.

Today, Dr. Young's recommendation to perform suprapubic urine drainage, if indeed he ever made such a recommendation, would be considered correct. Urinary retention with fever, chills, and gram-negative sepsis calls for immediate attention, and at the top of the list of treatment measures is the necessity to provide adequate urinary drainage. If simple urethral catheterization is not technically possible, then a suprapubic catheter is required. To allow a septic patient with retention to proceed into overflow urinary incontinence today would be considered negligence. Even with adequate antibiotic coverage to control the infection, such management carries a high mortality and possibly permanent renal damage. Whether a suprapubic cystotomy performed with techniques available in 1919 outweighed the risk involved in the use of conservative management can only be speculated.

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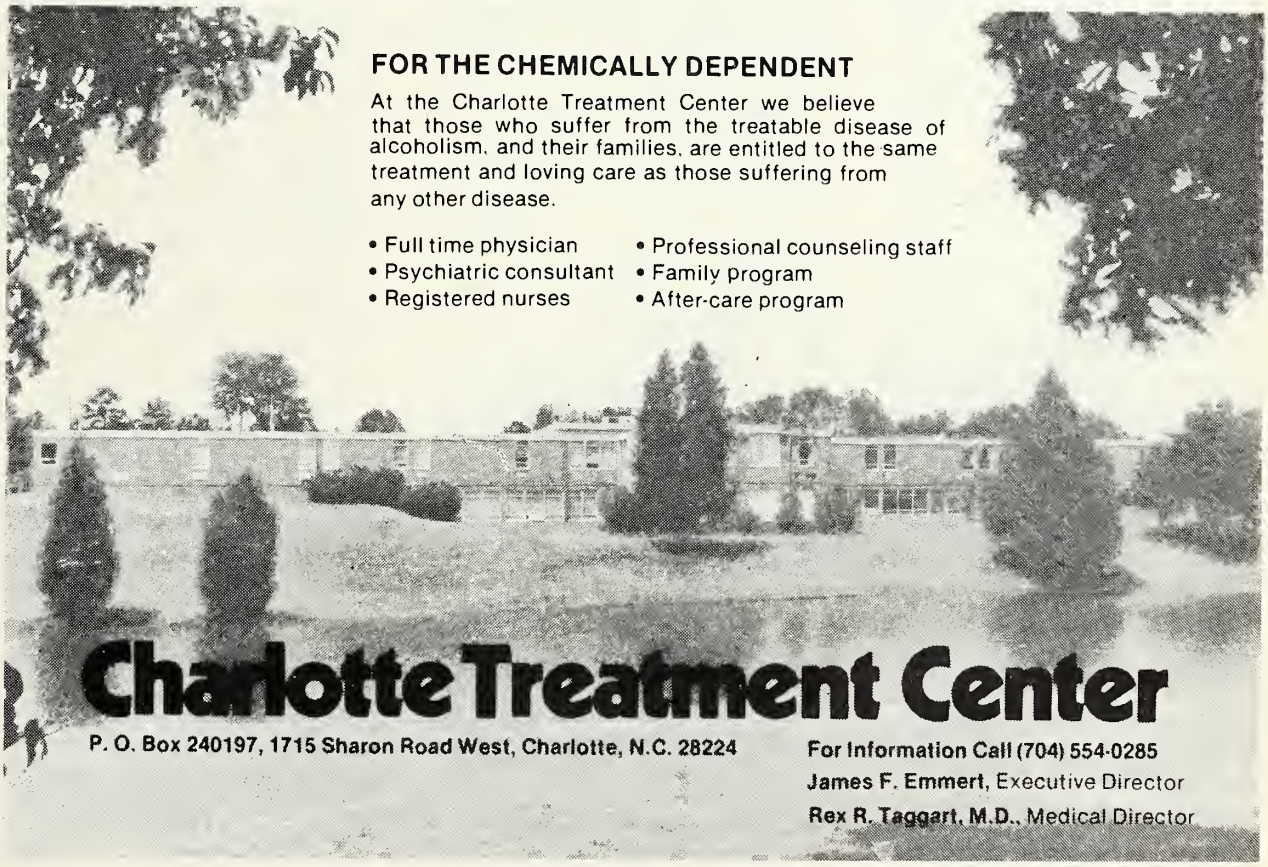
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GUIDE TO HMO-WATCHING

By Ann Gray, Managing Editor

"FIVE pounds per annum sick or well." That was the option offered to his patients in 1721 by Dr. William Douglas of Boston.[1]

He had released a small, primitive progenitor of today's health maintenance organization.

How the species has changed in the intervening 250 years! Today's HMO is a big, exotic bird, richly feathered in federal funds, groomed by a team of professional managers, attended by a retinue of physicians, and fed by the prepayments of thousands of subscribers.

To the young physician, it looks like a goose with golden eggs, offering an instant, salaried practice with which to amortize the debts of a terribly expensive education.

But to the senior doctor, nestled in a comfortable fee-for-service practice, it looks like a bird of prey intent on carrying off his patients.

The recent experience of private practitioners in Northern Virginia illustrates.

The nation's capital city is contiguous to Northern Virginia, and the prodigious growth of Northern Virginia's residential communities in recent history parallels the emergence of a gigantic federal bureaucracy and a panoply of businesses reliant on it.

Three health maintenance organizations have sprung up in metropolitan Washington and are now moving into those residential communities.

• Group Health Association, Inc., recently opened a branch in Annandale, Virginia.

• The George Washington University Community Health Plan has been recommended by the area's health systems agency for a certificate of need to establish a primary care ambulatory medical center in Falls Church, Virginia,[2] and the Plan's managers are reported to have applied to the federal government for funds with which to advertise it.[3]

The prospect of this advertising particularly abraids Northern Virginia physicians, not only because they are conditioned to the old medical ethic forbidding advertising but because federal tax dollars subsidize the ads. All HMOs promote their plans through ads and mailings; sometimes the money comes from the plan's own budget, sometimes the federal source is tapped.

In a recent large-scale advertising effort of its own devising, the Department of Health and Human Services paid a big-city ad agency $270,000 to produce television, radio and print materials and then flooded the Chicago area with them in a test campaign designed to create public awareness of HMOs; two other cities are scheduled for the same campaign.[4]

• The Georgetown University Community Health Plan has opened medical centers in the Northern Virginia communities of Reston and Springfield.[2]

This plan was faltering financially, but California's legendary Kaiser-Permanente HMO, with 3½ million enrollees in six states, came to the rescue this year and took it over, and it is now called Kaiser-Georgetown. Backed by long experience, top know-how and such ad-

vantages as volume purchasing, the Kaiser team can be expected to bid aggressively for the Northern Virginia patient population.

THE predations of prepaid plans such as these three are most commonly felt by primary care physicians, generalists, internists and pediatricians, but in Northern Virginia it was ob-gyn specialists and pediatricians who first detected a siphoning off of patients.[5] Early this year a group of them appealed to the executive committee of the Alexandria Medical Society for help in combating the competition.

"If you can't lick 'em, join 'em," the committee suggested in effect, and appointed the Society's vice president, Dr. Melvin D. Small, chairman of a committee to investigate the feasibility of an individual practice association of Northern Virginia physicians.[3]

Other members of the committee: Dr. Hernando Salcedo, president of the Alexandria Medical Society; Dr. Harry C. Kuykendall and Dr. John Roger Maloney, also Alexandria; and Dr. Herbert G. Hopwood, Jr., president of the Arlington Medical Society.[5] All are practicing physicians.

There was plenty of precedence for the suggestion to explore the possibility of forming an IPA, for most physicians believe that an invading HMO can only be fought from the ramparts of an HMO/IPA thrown up by physicians.

The popularity of the strategy is documented by a recent count[6] of prepaid plans across the country: Of a total 234 HMOs, 64 were found to be of the staff, or "closed panel", type, in which physicians are salaried and work only for the plan; 82 were group practice models, in which a non-profit administrative body contracts with physicians groups for medical services, these physicians continuing their fee-for-service practices; and 88, the largest number, were individual practice associations, in which physicians set up their own administrative arm (the HMO) and contract with it to provide services to its subscribers through a separate legal entity (the IPA), while continuing to practice on a fee-for-service basis in their traditional solo, group or partnership settings.

On these three themes there are many variations. Eight of these variations are visualized on the next two pages in graphs prepared by the Pennsylvania Medical Care Foundation and *Pennsylvania Medicine,* the journal of the Pennsylvania Medical Society.[7]

And within these eight models there can be more variations, usually occurring after a plan is well established and begins to take on individual characteristics reflecting its area, population, and financial mechanisms. For instance, Health Maintenance Organization of Pennsylvania, a version of Model 8, pays its member-physicians on a capitation basis instead of the fee-for-service method commonly favored by this model.[8]

THAT 88 individual practice associations are operating across the country is both a measure of the degree to which groups of doctors in private practice have felt threatened by HMOs and a tribute to their tenacity, for setting an IPA in motion is a long, tedious process.

Passed in 1973 as a cost containment ploy of the Nixon administration, the Federal HMO Act defines, provides, requires and mandates to a fare-thee-well, and subsequent amendments, plus the kibitzing of such other agencies as the Federal Trade Commission and the Justice Department,[9,10] as well as legislation by the states, have added more hurdles, so that The Road to IPA is today half maze, half obstacle course, and altogether a test of courage or foolhardiness, depending on how you look at it.

Travel expenses for the trip are no problem; they flow in the form of grants from the Office of Health Maintenance Organizations in Washington.

Table 1. Federal Assistance by Type, Amount and Time Period.[7]

Development stage	Maximum grant	Time period
Feasibility	$ 75,000	1 year
Planning	$ 200,000	1 year
Initial development	$2,000,000	1 year

No stranger to federal grants through his experience as chairman of the Northern Virginia Consortium for Continuing Medical Education, Dr. Small first incorporated the investigative committee into the Consortium, which is a free-standing, non-profit entity nicely geared to grants and studies, and applied for a feasibility study grant. It arrived in the amount of $72,483, and two consultants were promptly hired, one to advise on matters of medical care, the other on legal questions.[5]

As is typical whenever federal programs of this kind appear, a whole new class of consultants and other specialists has evolved to map the HMO route; the Office of Health Maintenance Organizations in Washington keeps a referral list of recommended consultants. One three-year-old national firm named Jurgovan & Blair has guided 54 health maintenance organizations into existence. In the feasibility stage, these consultants lay all the groundwork and examine the viability of the entire project, and charge anywhere from $10,000 to $50,000 for their work on this stage alone.[4]

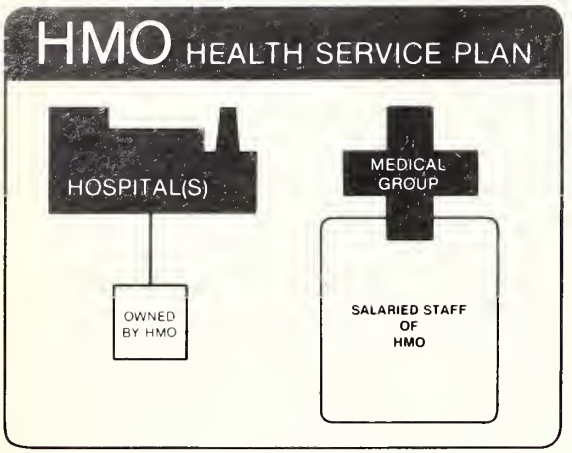
Dr. Small got out for $10,950 for his consultants, but he also hired a part-time director and a secretary and administrative assistant, and

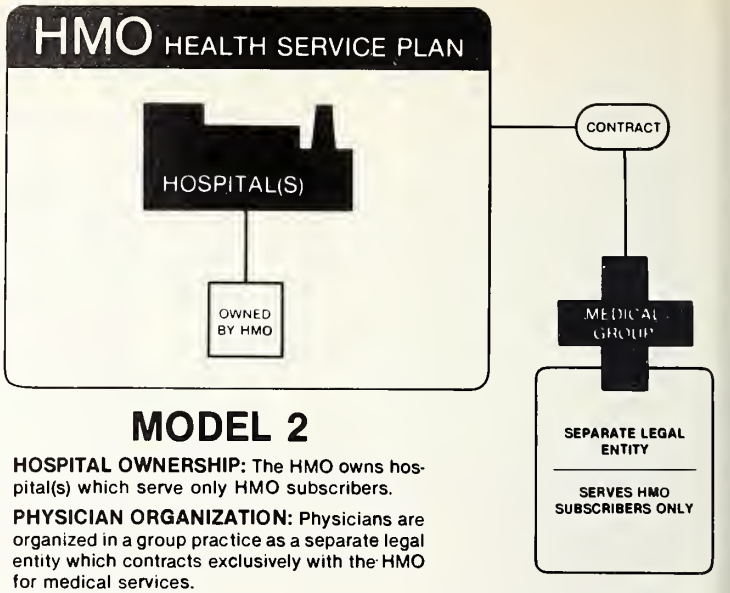
MODEL 1

HOSPITAL OWNERSHIP: The HMO owns hospital(s) which serve only HMO subscribers.

PHYSICIAN ORGANIZATION: Physicians serve the HMO in a group practice as salaried employees and serve the HMO exclusively.

EXAMPLE: Group Health Plan of Puget Sound.





MODEL 2

HOSPITAL OWNERSHIP: The HMO owns hospital(s) which serve only HMO subscribers.

PHYSICIAN ORGANIZATION: Physicians are organized in a group practice as a separate legal entity which contracts exclusively with the HMO for medical services.

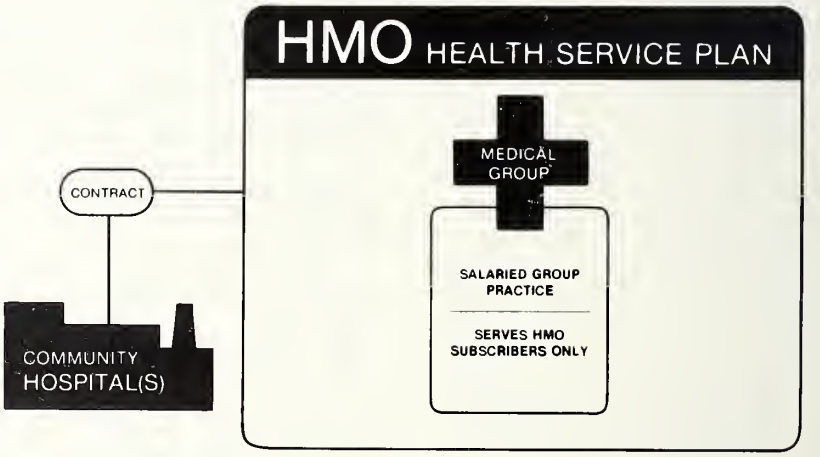
EXAMPLE: Kaiser Foundation Health Plan (Physicians are organized under the Kaiser Permanente Medical Group).

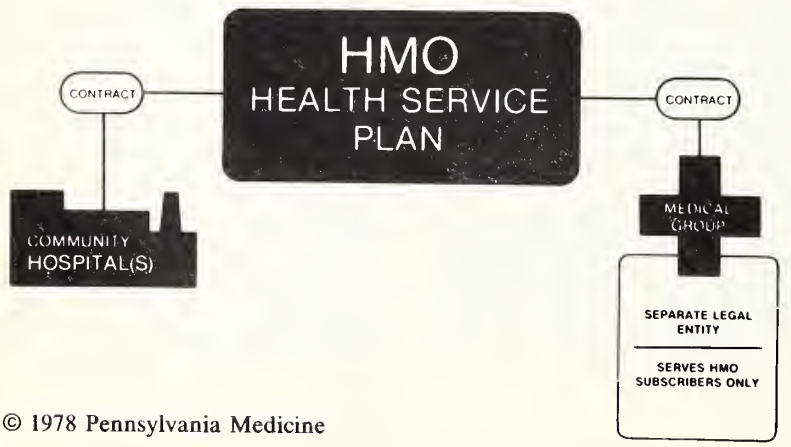
MODEL 3

HOSPITAL OWNERSHIP: HMO *does not* own hospital(s).

PHYSICIAN ORGANIZATION: Physicians serve as a salaried group practice of the HMO.

EXAMPLE: Group Health Association of Washington, D.C., and Harvard Community Health Plan.





MODEL 4

HOSPITAL OWNERSHIP: HMO *does not* own hospital(s).

PHYSICIAN ORGANIZATION: Physicians are organized in a group practice as a separate legal entity which contracts exclusively with the HMO for medical services.

EXAMPLE: Health Service Plan of Pennsylvania (Philadelphia); Penn Group Health Plan of Pennsylvania (Pittsburgh); Kaiser Plan in Denver, Colorado; and Genesee Valley Group Health Association (Rochester, New York).

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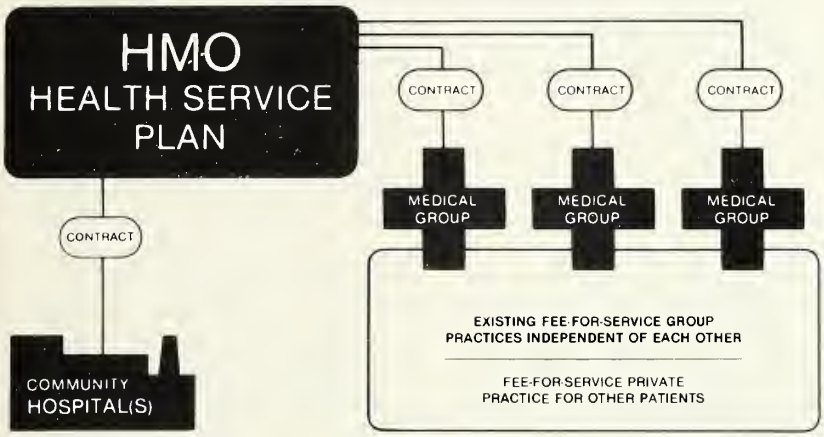
MODEL 5

HOSPITAL OWNERSHIP: HMO *does not* own hospital(s).

PHYSICIAN ORGANIZATION: Physicians are members of an established fee-for-service group practice which contracts with the HMO to provide some prepaid services to HMO's subscribers (members) while continuing a fee-for-service practice with other patients.

EXAMPLE: MedCenter Health Plan.





MODEL 6

HOSPITAL OWNERSHIP: HMO *does not* own hospital(s).

PHYSICIAN ORGANIZATION: Several established fee-for-service group practices contract, independent of each other, with the HMO to provide prepaid services to HMO subscribers (members) while continuing a fee-for-service practice with other patients. This is the group practice network concept.

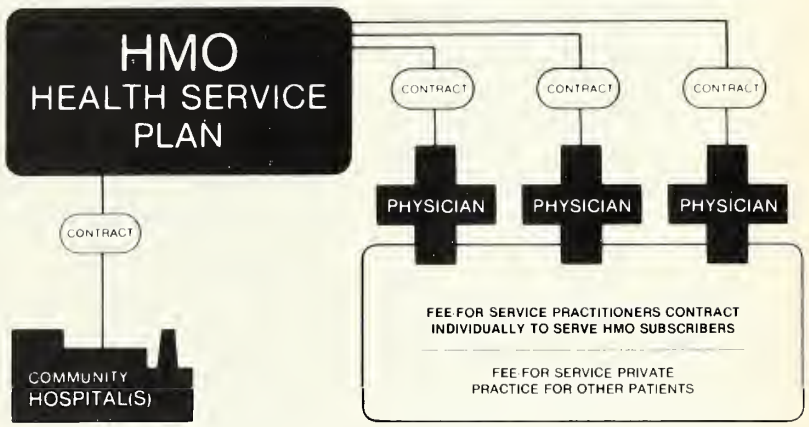
EXAMPLE: Philadelphia Health Plan and Blue Cross of Chicago.

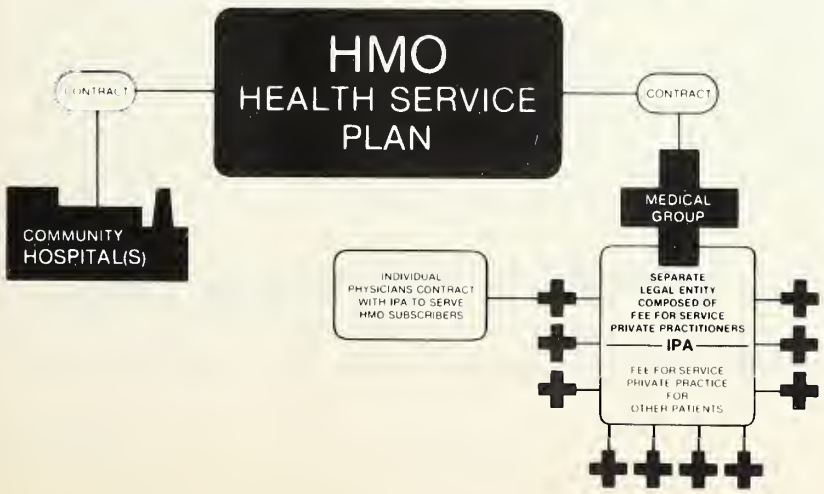
MODEL 7

HOSPITAL OWNERSHIP: HMO *does not* own hospital(s).

PHYSICIAN ORGANIZATION: Physicians continue to practice out of traditional settings (solo practice, small groups, etc.) on a fee-for-service basis and contract individually with the HMO to provide services to some HMO subscribers (members) while continuing to treat other patients.

EXAMPLE: Master Care (New Mexico) and Employers Mutual of Wausau (Wisconsin).





MODEL 8

(IPA-type HMO)

HOSPITAL OWNERSHIP: HMO *does not* own hospital(s).

PHYSICIAN ORGANIZATION: Physicians continue to practice out of traditional settings (solo practice, small group, etc.) on a fee-for-service basis but contract with the HMO to provide services to HMO subscribers (members) through a separate legal entity (Individual Practice Association—IPA).

EXAMPLE: Forbes Health Maintenance Plan of Pittsburgh and the Greater Delaware Valley Health Care, Inc.

"You need a firm commitment."

The following history of a California IPA's start originally appeared in the LACMA Physician, bulletin of the Los Angeles County Medical Association.[4] It is reproduced here by permission.

In the early 1970s, a number of HMOs became operational in the Pomona area. . . . . The Pomona physicians saw some of their patients leaving the fee-for-service system. . . . and in 1975 concluded that a consulting firm should be retained to proceed with a feasibility study.

By the end of 1977, the consulting firm concluded that there was a market for the proposed prepaid health plan. This optimistic forecast encouraged 100 physicians to sign a letter of agreement, committing them to four years.

Each doctor contributed $200. This $20,000 total was matched by Pomona Valley Community Hospital (which would become the HMO inpatient facility), and the $40,000 was used to hire a project director and finance the feasibility study.

In March 1978, Pomona Valley Community Hospital's Executive Committee approved a Governing Board for the project which developed the Pomona Valley Health Plan, which serves as the HMO, and Valley Independent Physicians, which serves as the IPA.

The two work hand in hand, and today the physician membership has swelled to 150, 90% of the Pomona Valley Community Hospital physician staff. All physicians work out of their individual offices.

Since its inception, the plan has been quite successful, according to Steve Bennett, who serves as president of the HMO and secretary of IPA.

"When the physicians initially got involved in the project they knew it would take several years before it became financially viable," said Bennett.

The Program's projected break-even point is still another two to three years away, but its vital signs are definitely encouraging.

Currently the plan has 3,000 enrollees; 7,900 is the projected break-even point, and if the 50% annual growth rate continues, this figure is within reach.

In order to finance the project, the plan withholds 25% of each physician's fees for services rendered to the plan's members.

"This is a relatively high percentage," admitted Bennett, "but it allows for a healthy retention fund. In order to survive, you need a firm commitment from the participating physicians."

Another prime reason for the high take-out is that the project is not federally funded, "nor do we intend to ask for federal funding," according to Richard Mabie MD, president of Valley Independent Physicians.

The project is not federally qualified either, but a qualification determination is expected in July. Both the HMO and IPA were inspected this past February . . . .

Naturally, in order to stay afloat the program needs to attract members. At first it was rough going, but the number of enrollees has been increasing at a steady rate.

"Public acceptance has been excellent," said Dr. Mabie. "It still takes some salesmanship on our parts, but many of the patients attracted to prepaid system are joining our plan because it maintains the doctor-patient relationship."

Marketing efforts have been directed toward local employer groups. "We are limiting our marketing to employer groups of ten or more with no screening requirement," added Bennett.

"This is the only IPA of its type in Los Angeles utilizing local physicians who work out of their individual offices. It's a big selling point; patients are less skeptical of this type of plan because they know who their physician is.

"Our plan has 55 primary care physicians who see the bulk of our 3,000 enrollees; on the average, less than 5% of each physician's patient load are members," noted Bennett.

With the Pomona IPA apparently thriving, and with other areas looking on with a watchful eye, Bennett believes that the HMO/IPA concept is here to stay, although it will never replace fee for service.

"The interaction of HMOs and IPAs is a healthy one," said Bennett. "It creates a competitive situation. If the private sector can exist with competing systems, such as the one in Pomona, there should be less pressure for socialized medicine."

"The interaction is a healthy one."

there were expenses for leased office equipment, supplies, telephone, printing and postage. Total feasibility study tab as of September 23: $36,000.[5]

WHAT was learned?

• That an independent practice association can have legal standing in the state of Virginia.

• That an IPA in Northern Virginia appears to be economically feasible. A computer model projected a monthly charge of $49.19 for a single enrollee and $138.72 for a family and predicted that such an IPA would break even at 14,550 subscribers, which total was estimated to occur by the 41st month of operation.

• In summary, the developed data purports to show that an IPA in the Northern Virginia area could be competitive with existing plans.[3]

So, full speed ahead to the next stage, the planning grant, which, as this was being written, was to be requested in the amount of $198,312. What happens to the leftover feasibility study money? It would be applied to the planning grant, Dr. Small assured.[5]

As a vehicle for the explorations to be conducted with the planning grant, a non-profit corporation was formed, "Health Care Alliance." Under the Alliance flag, the planning grant will be disbursed to establish and document community support for the IPA, develop a marketing plan, define the health services to be offered, identify the providers of those services and develop provider agreements.[3]

Dr. Small is at pains to point out that neither the acquisition nor the development of these grants commits anyone to found an individual practice association; they are investigative actions only, to determine the potential of an IPA in the area. To study the produced data and arrive at a consensus opinion, he invited all the medical societies of Northern Virginia to assign representatives to the board of the Alliance. Alexandria is represented by its members on the original committee: Drs. Salcedo, Maloney and Kuykendall. For Arlington, Dr. Hopwood was joined by George Contis, MD, a medical consultant. The Fairfax Medical Society expressed only mild interest, and the medical societies of Loudoun and Prince William Counties expressed no interest at all.[5]

Such a divergency of attitudes toward HMOs generally and IPAs specifically is characteristic of physicians everywhere. A recent issue of the Los Angeles County Medical Association's journal was all about these plans,[4] and the pros and cons expressed by doctors who practice in that HMO hotbed are instructive:[11]

Dr. James F. Feeney: "Fee for service is definitely threatened and most likely there will come a day when HMOs dominate medicine, but what troubles me is that most of our members are putting their heads in the sand."

Dr. William Sprague: "The HMO concept is a pie in the sky and will prove disastrous for both patients and physicians; it's the destruction of the one-to-one relationship."

From a district where Kaiser and Ross Loos, the two giants of the HMO business, are "bursting at the seams", Dr. Robert K. Nagamoto: "A handful of our members say we should form an IPA and fight the competition we are faced with, but the majority believes that organized medicine should oppose HMOs on legal grounds."

Dr. A. Zorel Partisky: "Our district believes the HMOs and IPAs spell the demise of the fee-for-service system. However, when we held a meeting on the subject there was a poor turnout."

Dr. William M. Wilson: "HMOs and IPAs cannot be the future of medicine because they treat only a narrow spectrum of patients; they siphon off the young and vigorous patients. My personal opinion is that HMOs are not in existence to treat sick patients. They are more like baby clinics that are making the bureaucrats happy. It's a problem organized medicine must deal with.

"As for IPAs, they are merely compromises we don't want to make."

UNWANTED compromises they may be, but physicians are making them, and the experience can have an invigorating effect. A case in point is the accompanying account of Valley Inde-

IPA's Two-Way Control

"The concept of 'open panel' is misunderstood. There is not one IPA in the country that allows any doctor to join without restrictions. All of the physicians must agree to the controls imposed by the HMO or IPA; they have to accept the payment that is approved by the IPA; and they have to go through the credentialling process. There are many physicians who can't live with these restrictions and who subsequently don't belong in the IPA. The IPA may also reject an applicant who has been involved in many malpractice suits or who won't open up his or her office to peer review.

"I personally feel that when practicing fee-for-service physicians fully understand IPAs and realize the control they have over this system as opposed to the non-control they have over the present system, they'll become more attracted to the idea."

—Mervin Shalowitz, MD,
in *The Internist*[17]

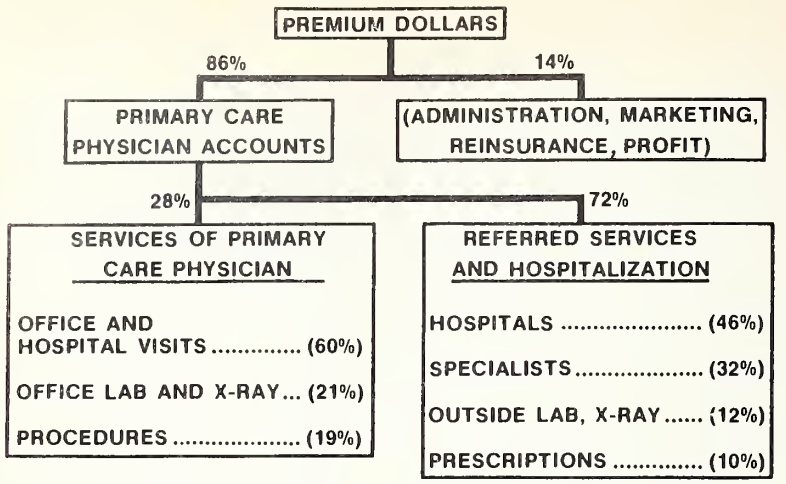


Table 2. Cash flow in United Healthcare, 1978.[12]

pendent Physicians, an individual practice association in Los Angeles County.[4] It should be noted that the physician-members of this plan are so vitally committed to it that they have refused all federal funding and instead have placed their own monies where their convictions are. This bodes well for their plan, for HMO/IPAs do fail, and a frequent reason for failure, analysts say, is lack of physician commitment.[2]

Another major cause of failure is said to be lack of management expertise.[2] Warns one well-known consultant: "I cannot stress too much the importance of running a prepaid health plan as a business. Administrators must be recruited from the business sector."[4]

As in any business, careful money management is crucial to success; in HMOs this involves balancing the cost of dispensed treatment with the income of prepayments, and that demands informed planning and oversight. The cash flow of United Healthcare, a capitated primary care network type of individual practice association operating in the states of Washington, California and Utah, is charted in Table 2.

United Healthcare's financial system pleases its participating physicians and encourages cost-effectiveness, according to Dr. Stephen Moore, medical director, in a recent issue of the *Western Journal of Medicine*.[12] Each physician has his own account. Part of the premium dollars that come into it are in payment for his services. If he has fewer than 200 patients, he is reimbursed on a fee-for-service basis at 95% of his normal charge; if he has more than 200 patients, he is paid a fixed amount determined by the age and sex of his patients and the services he provides. Physicians in both categories receive checks each month, so that they have a regular income with minimal risk of under-payment once the number of patients exceeds 200.

As the graph indicates, the money to pay for "outside" services—hospital and referral care, emergency room treatment, laboratory work, prescriptions and the like—also comes into the individual physician accounts, and these bills are not paid until the physician who ordered the services scrutinizes the charges and authorizes payment. A monthly statement summarizes how the dollars for referral and hospitalization have been spent, and lest this cost-conscious method lead to under-provision of care, the plan reviews utilization regularly to search for patterns of under-service and under-referral.

At the end of the year, deficits and surpluses in the physician accounts are shared. If there is a deficit, the physician pays back to the plan up to 10% of his own fee-for-service payments; if a surplus, he keeps half and the plan retains the other half. Catastrophic costs of more than $5,000 per year per patient are removed from any risk-sharing arrangement.

THIS need to balance a budget may alter a doctor's style of practice. A recent report of the American Medical Association's Council on Medical Service stated that HMOs, whether group, staff, or IPA, "result in [medical] care of enrollees at a lower total cost than for comparable groups in other systems," and the care thus rendered is of equal or superior quality to that of fee-for-service physicians.[13] These savings were achieved, the report added, by cutting hospital costs and admissions through the use of acute-care and ambulatory-surgery centers, pre-admission testing and same-day surgery, all of which may well require a reorientation of the participating physician's approach to patient care.

Solely because of anticipated savings in public funds, the first HMO to be set up by a local government has appeared.[14] It is in Contra Costa County, California, where a prepaid program previously offered only to residents covered by Medicare and Medi-Cal (California's version of Medicaid) is being transformed into a closed-panel HMO open to all residents. The county confidently projects savings of 20% by providing prepaid service to citizens who can't afford private HMOs or aren't eligible for them.

One financial aspect that affects the pocketbooks of participating physicians in many prepaid plans is their "at risk" position when the plan comes up with a deficit. Understandably, doctors don't like this feature, and some IPAs have taken care to eliminate it. For instance, when physicians in San Diego, Cali-

fornia, organized the Greater San Diego Health Plan (the HMO) and the San Diego Private Practice Association (the IPA), they protected themselves against liability in the event of the plan's insolvency with "stop-loss" reinsurance and a risk reserve fund collected from their IPA fees.[15]

THE decision to IPA or not to IPA in Northern Virginia is far off, awaiting the development of data and the opinions of the physicians concerned after they have appraised that data. Should the vote be in favor of an individual practice association, it could be the first in Virginia. Indeed, no HMO of any type has been licensed to date in Virginia.[2]

North Carolina has one active HMO in Winston-Salem, and in Chapel Hill a feasibility study is underway.

Kentucky has one active plan in Louisville, and three study grants have been awarded in the state.

West Virginia has two plans, both in Beckley, and two federally funded studies are in progress.

Tennessee also has two grants in progress but no HMOs to date.

Maryland has eight active plans, four of them in Baltimore, and five studies underway.[2]

A federal program called the National HMO Development Strategy lists two Virginia sites, Richmond and Norfolk-Virginia Beach-Portsmouth, as target areas of priority, i.e., medical care costs in these two areas are considered to be above average.[2] There is no HMO activity of record in the Norfolk area, but in Richmond the Metropolitan Richmond Chamber of Commerce has a federally funded feasibility study in work, and the consultants' report is expected to be completed this month. The data from this study is to be offered to any commercial firm that makes relevant inquiry, and a Chamber spokesman says there is no expectation of carrying it beyond the feasibility stage.[16]

At a meeting last month of the National HMO Industry Council, it was predicted that the big growth in HMOs in the next decade will come from the increasing involvement of commercial insurance companies and the expansion of existing, successful HMOs. Forecast by 1988: 26 million subscribers.

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Want to Read More?

VIRGINIA MEDICAL has permission to send to its readers copies of these articles that offer pertinent information and opinion on health maintenance organizations:

1. By the Pennsylvania Medical Care Foundation, a "Primer for Practicing Physicians" on HMOs and IPAs. Nicely brief, in outline style.

2. From California, where HMO pioneered, "HMOs/IPAs: A Special Report" from the LACMA *Physician*, journal of the Los Angeles County Medical Association. Articles written by doctors pro and con, plus anecdotal material.

3. "Health Maintenance Organizations: A Report for the Vanguard Committee of The Medical Society of Virginia", by Medical Service Consultants, Inc. Facts, figures, definitions and other information.

For any or all of these, write to Mrs. Ann Gray, Managing Editor, VIRGINIA MEDICAL, 4205 Dover Road, Richmond VA 23221.



Veteran of 29 years in Virginia's State Senate: Edward E. Willey

SENATE SHEPHERD

His specialty is guiding medical legislation through Virginia's Senate. For Virginia Medical, he speaks straight out on how patients see their doctors and how he sees lawyers in politics.

By Carl L. Shires

STATE SEN. EDWARD E. WILLEY is the senior man in the Virginia General Assembly and bears the history of shepherding medicine-related legislation through that body for 29 years. As such, he feels qualified to proffer an Rx for the medical men of Virginia:

"Improve your image!"

That was the priority advice elicited from the Richmond Democrat and retired pharmacist during a wide-ranging, three-hour interview for VIRGINIA MEDICAL.

During his 70 years, the senator noted, he and members of his family have enjoyed "close, friendly and satisfying relationships with the physicians who have attended us—including cost of treatment.

"But," said he, "doctors have given the profession as a whole a country-club, golf-playing, overpricing reputation."

The fault is theirs—and it is theirs to correct, he added.

"Medical doctors simply do not get out the word of their long and expensive training, their dedication, their family sacrifices, and the fact that they not all are rich. They don't get out the word that overhead costs are such that the first $12 of an office visit goes for payroll, rent, furnishings, equipment, those ever-present bookkeeping forms, and the like."

Often the doctor's own office personnel, he continued, drawing back in his chair and warming to the subject, is responsible for his adverse image: "There sure are some abrasive people working in doctors' offices; some of them, I think, get swelled up and think they're running the show. I think some of them call in patients at 10 and have them sit two hours just to give themselves a sense of power—without the doctor even being aware they've been waiting that long . . . they can't seem to get it into their heads that they're dealing with sick people, or at least people who think they're sick."

In his role as head of the Willey Commission, a Senate study group considering medical cost containment, he said those were the types of complaints that were poured out in ample measure during public hearings. "These things are not necessarily me; they are the words I hear," he explained.

"But people just don't understand it when the hospital bills them a dollar and a half for three aspirin, or $60 for a shot of tetanus in the butt. Nobody ever explains to them why it costs $150 a day to stay in the hospital. Nobody reminds them that coal used to cost $6 a ton and now costs $60, that oil used to be 18¢ a gallon and is now $1, that labor that used to cost $1.50 an hour now costs $6, that malpractice insurance costs are out of sight.

"Nobody explains that doctors lose money on a Medicaid patient when they get only $8 for an office visit from that patient . . . but I'd like to add this while I'm on that subject: The medical profession has got to realize that some doctor somewhere would have to be treating these indigent patients for nothing if they weren't getting the $8. They'd have to be seen in a free clinic on a rotation basis because they are indigents, paupers.

"And in Virginia, $379 million is being spent annually for Medicaid treatments, and the state pays 44% of that."

WITH THAT, the white-haired legislator, a man in office-holding politics since 1947, when he was appointed an alderman under the city's old form of government, leaned back in his capitol office chair to give time for it all to sink in, to make certain his listener got the message.

A man of strong opinions, and of almost unbelievable candor when he talks with a person with whom he feels safe enough to know that all he says will not be quoted, the senator has been giving opinions—and acting upon them—for more years than anyone at the legislature save one. (That one is Del. Orby Cantrell of Wise County, who also came to the Capitol in 1952).

Refreshed from his brief respite, he was ready for another question:

"What would you consider your



Senator Willey (left) confers in 1968 with a colleague, the late James B. Hagood, MD, who was a Virginia state senator for almost 30 years and in 1957 was President of The Medical Society of Virginia.

biggest contribution to health care during your legislative tenure?"

"That's an easy one . . . to see that Virginians get the best medical attention from doctors qualified to give them that attention, to see that we don't accept sub-standard doctors with sub-standard training into either private or public practice. I have always felt that no medical help is better than bad medical help and have tried to so persuade my colleagues."

Among those colleagues, he noted after stirring his memory cells, have been nine physicans quick to aid him in that persuasion. "They've always been good men, those doctors. But without trying to be vain about it, I honestly think I can be more effective than a doctor. I've never seen any greed among physician members, but at least when I'm doing the talking I can in no way be accused of greed.

"I've appreciated the professional help from doctor/legislators. Medical legislation simply cries out for attention and consideration. When you are toying with the human body, you're not tinkering with a carburetor."

Responding to another inquiry, he said he sees one area in which the lawmakers have been remiss: "We get in trouble by telling Blue Cross and other medical insurance people that payments for allied medical services are mandatory."

"That way everybody pays the tab but relatively few seek that sort of care. On some occasions, a patient may want or need a chiropractor or a psychologist, but payment should not be mandated in an insurance policy. There should be a rider on the policy and let the people pay who want such service. I may want a chiropractor myself some day but, if I do, you shouldn't help pay for it."

To an inquiry concerning what he might subjectively assess as his major contribution to the medical profession during his legislative tenure, the senator declined to put those contributions in one-two-three order "because they are all important."

But, said he, "I'd have to put up high my backing of the certificate of need legislation. Simply put, certificate of need tries to prevent an oversupply of hospital and nursing home beds. An oversupply means more cost to the patient because new facilities pirate away patients—leaving empty beds—and draw off trained doctors, nurses and other professionals. There still are areas of Virginia with inadequate bed space, and we need the facilities and personnel there instead of an oversupply somewhere else."

He reminded that he has sought, too, to get the malpractice laws "at least as fair to the medical profession as to the legal profession." Lawyers for the plaintiffs—those suing—have an unfair advantage, in his estimation. Defending lawyers, for example, cannot discuss collateral sources of compensation, such as insurance and social security. Willey has not been successful in changing those provisions, but he keeps trying. "I think it is right to try to protect the medical profession where plaintiff lawyers overplay their hands," he said.

He has been at the forefront, he reminded, of dozens of pieces of legislation dealing with the medical profession. As sponsor, as co-sponsor, and as backer and pusher, his presence has been felt. "But you've got to write also that I've been critical of the profession, too, when I thought it was getting too greedy or too selfish."

Additionally, he considers himself as "being a main cog" through the years in pushing for "adequate funding" of the Medical College of Virginia and the School of Medicine of the University of Virginia. "I've spent a lot of time explaining to my colleagues that it takes special funding for medical schools because of such things as teacher/student ratio,

special libraries and extremely expensive equipment."

Nor, he concluded, should his negative contributions be ignored, for, he explained, they have been negative in a positive way: "I've tried mightily to keep out bad legislation that I thought would unwisely and adversely affect the medical profession."

THAT SUBJECT put aside, and after oratorical sidetracks on such matters as the relative merits of the state's recent governors, the sometimes questionable wisdom of some of his colleagues, and the joys of fishing in the Potomac, Senator Willey was steered back to another question—this one concerning lawyers in the General Assembly.

"I've got some very good lawyer friends, and some very able members of the legislature are lawyers ... but there are just too many of them around here. This is a lawyer-dominated Assembly. Just about anything we pass, any law, is somewhere going to get a lawyer involved in it. It's a hard thing to avoid some sort of conflicts of interest, but I've not seen any flagrant examples of that. I know that doctors and lawyers have their differences, and I try to stay in the middle channel on that."

That the legislative thoughts and musings of Willey are worth heeding comes through acknowledgment of his seniority and through his chairmanship of the Senate Finance Committee—a job he's held since 1972.

It is his committee that gets last crack at the budget pie sliced by the lawmakers. House Appropriations bakes and tentatively slices the pie and sends it to the Senate. The Willey group determines the size of final servings.

Though he has risen in power and stature, Willey—possessed of a ruddy, stalwart, white-thatched gubernatorial look—just never got the right compounds together to turn himself into the big pill at the Governor's Mansion.

The MCV-educated former pharmacist made some runs at it, particularly back in the '60s, but all the ingredients just weren't there. His most serious bid came in 1965. Mills E. Godwin, then a Democrat, was there and took the nomination. Since then it has been all Republicans, including Godwin again—the second time as a GOPer. Nor did Willey's long-haul political aspirations shoot skyward when US Sen. A. Willis Robertson lost a Democratic primary bid for reelection in 1966. Willey was his state campaign manager in that losing run.

Senator Willey is a candid man, one of the most candid at the capitol. Occasionally that candor has got him into controversy. Would he consider himself—as he does some of those doctors' office personnel—subject to the description of "abrasive?"

"Maybe so, if saying what I think and doing what I think is right can be considered abrasive."

Will he run again in 1983?

He hedged on that one: "I'd say right now my inclination is not to run ... but then, if my health holds out ... but then Mrs. Willey doesn't want me to."

The Senator still maintains that outdoor look that has come upon him justifiably through long hours in goose blinds, in fishing boats, and on the golf course. He says some people have misinterpreted a recent weight loss as sign of failing health. "Not so. I just decided to quit eating as much, and I've dropped from 195 to 175."

The work hours he maintains are ones more befitting a man of 30 than of his 70. Six years ago he sold his drug store on Richmond's North Side. Now he maintains virtually full office hours at his first-floor capitol office.

There, the comers come in great numbers, day in, day out. People who slice the money pie never lack for visitors.



At a press conference in 1965, Senator Willey announces his withdrawal as a candidate for Governor of Virginia in favor of Mills E. Godwin, who went on to win the office.

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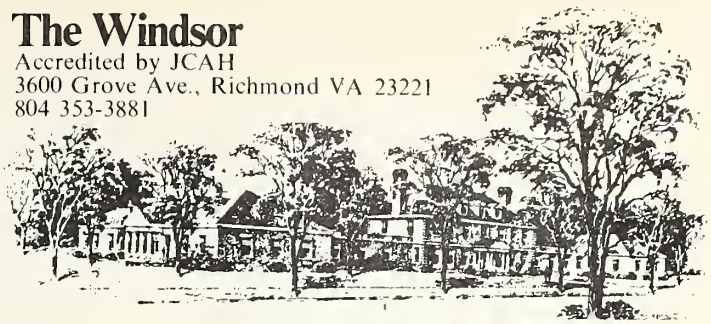
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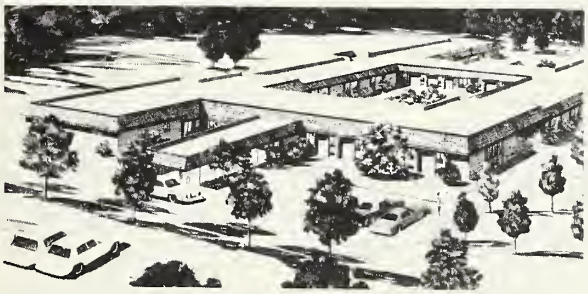
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Vigilance in Vasectomies

Barry Robert Berkey, MD, *Fairfax, Virginia*

Illustrating his message with a case history, the author warns of the psychosocial complications that too often follow a vasectomy and urges the physician to evaluate carefully not only the husband's avowed reasons for seeking the procedure but also his wife's influence on the decision.

WHEN Mr. T was a 26-year-old Army officer, he received approval from the medical "administrative officer," a non-physician, to have a vasectomy performed. He had been married for only one year at the time. Seven years later, he underwent a vasovasotomy. His decision to reverse the initial surgery carries noteworthy implications for physicians involved with patients who undergo this procedure as a contraceptive measure.[1,2]

In discussing his reasons for having the sterilizing surgery, Mr. T accepted responsibility personally for the decision—even though his reasons for the procedure related more to expressions of his wife's feelings than of his own views. He stated that he did not like children and that he would never want to have any; attempts to elicit deeper feelings led only to elaboration of the same theme; children are "little urchins," "drains," "unrewarding responsibilities."

Actually, Mr. T revealed that his wife wanted children even less than he, though not because of an intense dislike for youngsters. Mrs. T was convinced, her husband stated, that the gestation period would permanently transform her attractive body into a dowdy, unappealing mass, so she could not seriously entertain the idea of motherhood. She was fearful of The Pill's effects on her present and future health, and believed that IUDs and diaphragms were not effective enough to guarantee safety from pregnancy. Spermatocidal foams she would not even consider. She requested that her husband use condoms and he agreed to do so without objection. In a relatively short time, however, condoms became a cumbersome interference and the idea of a vasectomy arose.

The patient was not able to say who initiated the idea of surgical sterilization, and, in fact, parried probing questions about this, with the implication that they lacked relevance. He did relate with certainty that he did not struggle with the idea of surgery; this relatively irrevocable decision was made and carried out swiftly.

A great deal of veiled anger, directed at his wife, was present although he denied that anger as well as other negative emotions for Mrs. T, such as boredom, frustration, annoyance and irritation.

An intelligent and educated person, Mr. T knows that a vasectomy should not impair potency, libido or any other sexual function. In the following segments transcribed from a portion of a psychotherapy session, some of Mr. T's intellectual knowledge about

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his vasectomy is challenged by emerging contradictory feelings.

Mr. T: It's really just been maybe in the last year that the feelings began. I didn't think about the operation much before that. And I think it was only after I had found out that it was possible for it to be reversed that I started to examine my feelings.

BRB: Your feelings were dormant for four, maybe five years?

Mr. T: The vasectomy made it [sex] less exciting, more mechanical, less meaningful. A feeling of being emasculated, of not being really "a man."

BRB: Less exciting, more mechanical, less meaningful sex? Why is that?

Mr. T: Because of the operation, the element of excitement was taken away. I have not been as good at sex as I would like to be. I know as I say this that the operation is one of the very least reasons why sex between Sue [Mrs. T] and me hasn't been as good as either one of us would like. [Mrs. T] is unable to achieve orgasm during sexual intercourse, and although she experiences orgasm with oral and manual stimulation, her ability to have conventional orgasms during coitus has become disproportionately important to her.] But the mechanical, unexciting, boring feelings are just there. Maybe I've felt bored at some level all along, but maybe I didn't feel it was okay to look at those feelings until I decided to try to have the vasectomy reversed. It's stupid to have felt I had to push those feelings away.

BRB: We all have feelings that don't make sense sometimes. Can you tell me about the feelings of emasculation you mentioned?

Mr. T: I've felt less interested in sex, in terms of frequency, and it's made me less excited when we did have sex. I'm not sure that feeling is valid. I'm looking at our sexual relationship and saying it hasn't been satisfactory. But I'm not sure to what degree, when we were actually having sex, that I can blame the operation. But when I let a lot of feelings float to the surface, I recognize positive feelings about the possibility of being a parent and about kids in general. I really sat on those feelings for a long time. And that's related to a feeling of being emasculated by the vasectomy.

BRB: Because of the absence of any possibility of having a child?

Mr. T: Yes. But the feelings get all tangled. The mechanical aspects of sex—predictable and less exciting and less meaningful are also a part.

BRB: What you're saying is much more about feelings than sexual performance.

Mr. T: Oh, I think it's more of a feeling because, if anything, my performance was considerably better after the vasectomy than before.

BRB: In what ways?

Mr. T: In very narrow "me" terms. It was easier for me to keep an erection without the interruption of having to deal with rubbers. And I did—did and do—enjoy the direct stimulation of intercourse without a rubber.

BRB: Whose decision was it to try to have the vasectomy reversed?

Mr. T: You know it was mine. I'd asked you a lot of questions and you agreed to talk to a urologist to find out for me what my chances of success were.... Maybe you mean who decided after I had all the data. I did. Even before Sue and I went to the urologist for the initial visit, I had pretty well decided I wanted to try to have it reversed.

BRB: Do you recall her feelings?

Mr. T: It scared her. She thought that I wanted to be able to have kids with another woman if we got divorced. That was probably the first time divorce was ever mentioned. She took my decision originally as a vote of no confidence about our marriage. Similarly, and this is crazy, she took it as a vote of confidence for our marriage since we planned to have kids if the surgery was successful. Now we've decided, or at least I have, that if we can't have kids of our own, I'd like to adopt. Sue's not too sure about my reasons for wanting kids at all. Or maybe it's my motives or the strength of my feelings she questions. I know she feels more upset with me now about my wanting kids than when we talked about having the reversal for the purpose of having kids. She doesn't question her feelings. She questions mine.

The real, as opposed to the stated, reasons for the vasectomy are significantly different. His wife, Mr. T said, was terrified not only of the physical pain and

danger of bearing a child, but "knew" that any child she carried would have birth defects; if through some miracle it did not, then it would be sickly; if it were not sickly, then she would be the absolute worst mother possible and would surely "screw the kid up for life emotionally." She did not elaborate on the breadth of her phobia, but emphasized to Mr. T mainly her fear of losing her shapely figure. Extensions of her concerns about her own health were expressed through her views regarding The Pill and the use of IUD or diaphragm. Mrs. T also revealed, "I recall when I was 9 or 10 years old my mother told me that once she had kids, the feelings between herself and my father were never the same. I [tearfully spoken] felt for years that I was in the way of their loving each other. And if I did that to my mother, why wouldn't the same thing happen to me?"

Mr. T's decision for the vasectomy was really Mrs. T's desire. He unknowingly carried out her unspoken wish. Condoms, as the only contraceptive acceptable to Mrs. T, became a predictable annoyance, and since all other birth control measures were eliminated, vasectomy became the only alternative acceptable to her. A major damaging emotional component of the surgical decision was Mr. T's anger, which stemmed from his failure to recognize, until years later, his wife's influence on "his" decision. Even at the time of psychotherapy, the anger he felt for her was blunted and released indirectly, taking the form of sexual disinterest, poor sexual performance, and the vasovasotomy itself—with its threat of parenthood, a frightening prospect for her. As Mr. T, began to uncover camouflaged negative feelings for Mrs. T, he became increasingly uncomfortable.

Men with personalities like Mr. T's offer considerable challenge in the arena of vasectomy screening. He approached the operation with poise, conviction and seeming unconcern about the permanency of the surgery. Anxiety was concealed, and his manner was one of rational certainty. Although only 26 years old and childless at the time, he appeared mature, unwavering in his views, and had the full support and cooperation of his wife. His reason for the surgery was simple enough to accept without serious question: He (and his wife) did not want to have children—ever.

Physicians who recommend and/or perform vasectomies could offer sounder guidelines and thereby diminish the frequency of untoward side effects by interviewing both the husband and wife, preferably together. This would assist in determining the "feeling tone" for the level of agreement between the spouses for the procedure. For instance, an absence of mutuality is a sign for concern. When a couple mentions "obvious" anticipated benefits, such as convenience, spontaneous sex and freedom from worry about pregnancy, it is easy for the harried practitioner, by remaining silent, to provide tacit agreement that these desirable benefits are the only or primary considerations.

The truth is that exaggeration of anticipated positives can work against a couple's best interests in the decision for a vasectomy, and the physician should explain that to the couple. Even well-educated couples may be surprised to learn that a vasectomy can intensify rather than resolve existing sexual and marital conflicts. The chance of postoperative psychosocial decompensation is high when vasectomy is assigned the mythical power of revitalizing waning sexual interest. Of course, conveying this knowledge to a couple will not generally dissuade them from proceeding unless they acknowledge that the description applies to their marriage. Thousands of couples are expert at pretending that their tarnished marriages are flawless,[3] and seeking magical potions for marital discord may become a way of life which, unfortunately, often includes the relatively irreversible vasectomy.

The physician must be on the alert for the couple who unconsciously conspire—as did Mr. and Mrs. T—to have the operation for the wrong reasons. Mr. T wanted a temporary means of contraception with the certainty a vasectomy offers, and he is only one of many who have the same desire. Pointing out that even highly effective contraceptive devices fail not because of the product, but because of the person may release a flood of information and avert unwanted complications from a procedure that was requested but not genuinely desired.

Because psychological vasectomy scars are invisible, there is a greater tendency to continue less than optimal screening patterns; this would be abandoned rapidly if the morbidity were available to direct scrutiny.[4] It is suggested that an in-depth interview of the couple would uncover a greater percentage of contraindications that would be missed if the husband alone were examined. Diligent preoperative evaluation, however carefully followed, cannot be expected to eliminate the adverse psychosocial effects entirely.

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Cancer Trends: Surgical Adjuvant Chemotherapy for Operable Breast Cancer

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For the primary treatment of breast cancer, the perioperative use of chemotherapy may destroy disease outside the operative field and increase the chance of cure. The authors discuss the combinations of drugs being studied today and describe suitable chemotherapy candidates.

THE PRINCIPLES on which present day surgery for cancer of the breast are based were formulated at the turn of the century. Certainly no one was more influential than William S. Halsted,[1] whose name is associated with the radical mastectomy. He felt that the lymphatics were the principal route for the development of metastases and attached little significance to venous invasion.[2] It was a popular concept that a growing cancer remained localized at its origin for a time and then at some point during its growth invaded the lymphatics and spread to the regional lymph nodes. Following a further interval, systemic dissemination occurred.

On the basis of this information, an anatomical basis for cancer surgery was established. A "proper" surgical operation for cancer consisted of the removal of the primary lesion together with the regional lymphatics and lymph nodes by an en bloc resection. Cancer was a locally-regionally confined disease that spread in an orderly fashion, it was believed, so if the surgeon was more extensive in his resection, he could eradicate the last cancer cell. The concept of "one more lymph node dissection would cure more cancers" was widely accepted, and local recurrences were considered to be the result of inadequate surgical resection rather than the manifestation of systemic disease. Surgery for cancer of the breast, and in fact all cancer surgery, was based on these anatomical principles, which have persisted for over 80 years and are still believed by many surgeons.

But over the past 25 years a new basis for cancer

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surgery has been formulated from information concerning tumor biology.[3] It has become apparent from a variety of sources that many patients with solid cancers have disseminated disease at the time a clinical diagnosis is made. A 1-cm cancer of the breast, the minimum size detected by physical or self-examination, has already undergone 30 doublings and represents one billion (10^9) cells; if we accept 100 days as an average doubling time for breast cancer, it has been present for eight years, ample time to allow systemic dissemination. This is emphasized in data from the National Surgical Adjuvant Breast Project (NSABP)[4] trial showing the percent of treatment failure following radical mastectomy for patients considered to have clinically "curable" breast cancer. In a large number of patients followed for ten years, there was a 24% treatment failure rate for those patients with negative axillary lymph nodes and a 76% failure rate for those who had axillary node metastases. In the latter group, those with one to three positive nodes had a 65% treatment failure rate and those with four or more positive nodes an 86% treatment failure rate. The overall 10-year treatment failure rate for all patients was 50%. These results confirm the importance of the status of the axillary nodes as the single most significant prognostic factor in breast cancer.

It is well established that some patients are apparently "cured" by surgical resection alone. This is no indication, however, that the procedure removed every cancer cell and that dissemination had not taken place. A more plausible explanation is that the residual cancer cell burden may be sufficiently small so that it is eradicated by host factors. In animals it has been shown significant reduction of the viable cancer cell population by surgical resection, radiation therapy or chemical destruction results in a higher growth fraction and shortening of the tumor cell generation time in the metastases. Both of these conditions make the metastases more vulnerable to chemotherapy.[5] It would seem reasonable, therefore, on the basis of our present day knowledge, that surgical resection for breast cancer is directed towards reducing the total body burden of cancer cells to a number of viable cells susceptible to complete destruction by immunologic and other host factors, systemically administered chemotherapy or a combination of both.

Surgical adjuvant therapy refers to the peri-operative use of radiation therapy, chemotherapy and/or immunotherapy in conjunction with surgery for the primary treatment of breast cancer. By using other therapeutic modalities in addition to surgical resection, one can hope to destroy disease outside the operative field and increase the chance of cure. There is experimental data to support this concept. Cell kinetic studies in rodent tumors[6] have demonstrated that chemotherapy is more likely to be effective when a small cancer cell burden is present, such as would be expected after surgical resection. At this time, the growth fraction is relatively large (i.e., there are more cells in cell division), and the cells are therefore more likely to respond to chemotherapy, which tends to act preferentially on dividing cells. An actual therapeutic advantage of adjuvant chemotherapy was demonstrated in mammary adenocarcinoma in mice by Shapiro and Fugmann in 1957.[7] They compared complete responses obtained with chemotherapy alone, surgery alone, and a saline control group to that obtained with surgery plus chemotherapy. While no response was seen in the first three groups, 57% of animals treated with surgery and chemotherapy achieved cures. A similar therapeutic advantage of surgical adjuvant chemotherapy has since been demonstrated in several other animal cancers as well.[8]

The mechanism by which adjuvant chemotherapy works in breast cancer probably involves direct cytotoxic cell kill of the cancer. In hormonally responsive cancers such as premenopausal breast cancer, however, chemotherapy may exert a hormonal effect reflected by the high incidence of amenorrhea (approximately 80%), essentially causing a "medical oophorectomy".[9] There is ample data to demonstrate the association of hormonal effects of adjuvant chemotherapy with development of transient or permanent amenorrhea with alteration of the levels of circulating estrogens, follicle-stimulating hormone and lutinizing hormone.[10] Other studies present evidence against ascribing the benefits of adjuvant chemotherapy in pre-menopausal women to suppression of ovarian function. First, a prospective randomized clinical trial of prophylactic oophorectomy following radical mastectomy showed no beneficial effects as compared to surgical resection alone in this group of women.[11] Second, with the Milan study[12] there was no statistically significant difference in relapse rates between pre-menopausal patients who developed amenorrhea on chemotherapy cyclophosphamide, methotrexate and 5-fluorouacil (CMF) and those who did not. Third, a recent analysis of the NSABP data studying the hormonal function in pre-menopausal patients receiving l-phenylalanine mustard (L-PAM) as adjuvant chemotherapy showed that the best results were seen in the younger (under 39) age group with statistically significantly less amenorrhea (22%) than the older (40-49) group, in whom there was a higher incidence (73%).[13]

In a recent article, Weiss and DeVita[14] speculate that the reason for a better response of the pre-men-

opausal patient is due to the fact that there is a lower incidence of estrogen receptor proteins in cancer tissue associated with a more rapid tumor growth capacity. Pre-menopausal women have approximately one-half the incidence of estrogen receptor positive breast cancer of post-menopausal women. The thymidine labeling index of a group of cells is a measure of the proportion of cells actively synthesizing DNA. Breast cancer in pre-menopausal patients and patients with low or absent estrogen receptor protein have a higher thymidine labeling index than post-menopausal patients or those with estrogen receptor protein present.[15,16] Therefore, these premenopausal patients should be more vulnerable to chemotherapy.

On the basis of tumor cell kinetics and information regarding certain chemotherapeutic agents, it seemed logical that chemotherapy would be a worthwhile adjuvant to surgical resection in those patients with metastases in their axillary nodes. Several considerations are of paramount importance in the selection of the drugs to be used in clinical trials. First, it is essential that such therapy should have demonstrated previously a beneficial effect on the patient with advanced breast cancer. Second, the toxicity of the agents must be acceptable to both the patient and her physician. Third, the pharmacologic characterisitics of the agents should be appropriate to breast cancer and easily administered, ideally by mouth. Fourth, when multiple drugs are used they should be synergistic. The choice of agents has come, for the most part, from drugs with demonstrable activity in advanced breast cancer. The major agents currently being used in adjuvant chemotherapy of breast cancer include L-phenylalanine mustard (L-PAM), cyclophosphamide (Cytoxan®), methotrexate (A-methopterin) and 5-fluorouracil (5-FU).

One of the first drugs employed was L-phenylalanine mustard which has been shown to cause tumor regressions in breast cancer patients with advanced disease without causing alopecia or undue gastrointestinal toxicity. This clinical trial was under the sponsorship of the National Surgical Adjuvant Breast Project (NSABP).[13] The current results at 48 months show essentially no difference in disease-free survival in patients receiving the L-PAM following surgical resection and the controls treated by surgery alone, except in a subgroup of premenopausal women with one to three positive nodes; those receiving L-PAM showed definite improvement in disease-free survival as compared to the controls. Other clinical trials have been or are being conducted by NSABP[17] in patients with breast cancer who have axillary node metastases, evaluating the following combinations: L-PAM compared with L-PAM and 5-FU, L-PAM and 5-FU compared with L-PAM, 5-FU and methotrexate, and most recently L-PAM and 5-FU compared with L-PAM, 5-FU and tamoxifen, and L-PAM and 5-FU compared with L-PAM, 5FU and C-parvum. Tamoxifen is an antiestrogen agent and C-parvum is corynebacterium parvum an immunostimulator. The results await the passage of time for proper evaluation.

The use of combination chemotherapy appears to be of theoretical advantage because it results in less than additive toxicity to the normal cells, potentiation of biochemical activity against the cancer cells, and destruction of cancer cells resistant to one or more of the drugs in the combination. One of the more popular combination chemotherapeutic regimens used as an adjuvant to surgery is cyclophosphamide, methotrexate and 5-fluorouracil (CMF) which was popularized originally by Bonnadonna. The most recent results reported by his group[18] demonstrate at 48 months a relapse-free rate in the pre-menopausal patient of 43.4% in the controls and 70% in those receiving CMF, a statistically significant figure. There was no statistical difference in the post-menopausal age group. A further breakdown of those pre-menopausal women on the basis of the number of nodes involved with metastatic disease showed a statistically significant difference for those receiving CMF whether they had metastases demonstrated in one, two to three, or greater than three lymph nodes.

There are obvious disadvantages of adjuvant chemotherapy.[19] Toxic side effects can lead to increased morbidity and certainly have an adverse effect on the quality of life of the patient. There can also be mortality, if not carefully monitored. The long-range effects of immunosuppressive agents on the patient have not been determined. The possibility of second cancers, particularly of the lymphoreticular system, must be considered. The length of time adjuvant drugs should be administered is not well established. The effectiveness of new regimens with the addition of other drugs, such as adriamycin, hormones (depending on receptor status) and immunotherapy, needs to be determined.

It appears reasonable at the present time that a pre-menopausal woman who has metastases in her axillary nodes following a mastectomy and axillary node dissection for breast cancer is a suitable candidate for adjuvant chemotherapy. From the data now available, combination chemotherapy is most effective. If the patient is post-menopausal, the data do not support adjuvant chemotherapy, regardless of the number of lymph nodes involved, unless the patient is entered in a clinical trial. As part of her informed consent, she is told that to date the results

have not shown any benefit for those receiving the chemotherapeutic agents as compared to those treated with surgery alone. There is no justification for the use of surgical adjuvant chemotherapy for the patient whose axillary nodes are free of metastatic cancer on microscopic examination, at least not until a carefully designed clinical trial demonstrates a true benefit.

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CANCER TRENDS COMMENT

There is a well recognized need to improve the results obtained in the primary treatment of breast cancer. The major cause of failure of surgery and radiation is the appearance of disease outside the area of primary treatment. Adjuvant therapy with drugs or hormonal maneuvers is designed to increase the number of women cured of breast cancer, by destroying cancer cells that have spread beyond the breast and regional nodes.

Ideally, only women who have microscopic spread of breast cancer would be selected for treatment with a regimen highly effective in eradicating microscopic foci of breast cancer and with no significant early or late toxic effects. Unfortunately, we are still not near the ideal situation. The recommendations of Horsley and Diasio are excellent. I would add to these recommendations providing the individual patient with estimates of the probability of recurrence without treatment, the probability of recurrence despite treatment, and indicating the possibility of a late complication. With this information the patient will be better able to accept the physician's recommendations.

We do not practice group chemotherapy, so we cannot show the adjuvant group how much better off they are than the untreated group. We have to face each patient "one on one." In this setting it is very helpful to have a fully informed patient receive the recommendation to take or not take adjuvant chemotherapy.

GERALD GOLDSTEIN, MD

Reactive Hypoglycemia Precipitated by Sucrose and Glucose

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"Reactive hypoglycemia is not important in terms of morbidity or mortality. It is not an esoteric or 'brilliant' diagnosis. But it is appalling to think of the harm to the patient with reactive hypoglycemia who receives from a physician only 'anxiety' as an explanation and only tranquilizers as therapy."

THE term "hypoglycemia" refers to a familiar group of symptoms and signs associated with a decreased blood glucose.[1] It usually responds to the administration of glucose, either exogenously by oral and intravenous routes or endogenously via epinephrine and glycogenolysis.

There are numerous physiologic causes of hypoglycemia, including the administration of insulin, oral hypoglycemic agents or other drugs, and the pathologic secretion of insulin by islet cell adenoma, as well as insulin-like secretions by other tumors. It can occur from a block of glycogenolysis, with many of these a consequence of enzyme or endocrine deficiency, or from depletion of glycogen stores.

Physiologic excess or relative excess of secretion of insulin by the pancreas can occur as an early manifestation of diabetes mellitus[2] or in subtotal gastrectomy patients. It is seen after alcohol ingestion (especially gin-tonic)[3], after cessation of intravenous hyperalimentation, and subsequent to excess ingestion of sucrose-glucose items in some patients. These latter episodes have been termed, variously, as reactive hypoglycemia, functional hypoglycemia and spontaneous hypoglycemia.

The syndrome of reactive hypoglycemia was described many years ago.[4] Since then a tremendous amount of confusion has arisen regarding the topic, largely because, in the writings of a few physicians and lay-authors, a great deal of malaise, fatigue, inadequacy, hypochondria, depression, anxiety, psychosis, alcoholism and crime-violence was attributed to "hypoglycemia." Yet physicians in practice and at referral centers who saw these patients found that they definitely did not have hypoglycemia, so these physicians began to doubt the very existence of the syndrome of reactive hypoglycemia.[5,6] Simultaneously, physicians who did encounter patients with the symptoms and signs of the syndrome usually treated them with a low carbohydrate, high protein diet.[7] Those who did not respond were usually regarded as having anxiety states simulating hypoglycemia.

The confusion has been further compounded by the use of "reactive hypoglycemia" to refer only to

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the hypoglycemic episodes which often alert physicians to early diabetes, so that now many physicians even doubt the existence of these hypoglycemic episodes.

My own patients are fairly representative of the practice of an average internist who has a following of regular patients and a segment who are physician-referred. Each year five to six patients are seen who volunteer that they have "hypoglycemia" as the cause of an illness; perhaps one-third of these are referred by a physician. In most instances, the physician had decided to "unload" the patient at the first mention of "hypoglycemia", although there were instances in which the referring doctors sincerely wished to have these claims investigated. I can recall only one patient in 20 years from this group who did have hypoglycemia. His was secondary to endocrine insufficiency with an inability to mobilize glycogen, and he did not qualify as having reactive hypoglycemia. Except for this one patient, none of these patients carrying the diagnosis or clinical suspicion of "hypoglycemia" truly had it. Most of them had been misled by available literature or by friends who had read about it. A few of them had received the diagnosis from physicians who apparently found it more acceptable than explanations of the true problems, and others were probably simply misdiagnosed.

It was difficult to explain to these patients that they did not have hypoglycemia. Usually it was accomplished by "hearing them out" and by explaining carefully the differences between their true problems and the hypoglycemia they thought they had. "Non-hypoglycemia" has been used as a sarcastic diagnosis for this group.[8,9]

Conversely, an almost equal number of patients who did indeed have hypoglycemia were examined during this time because they thought they had organic disease of the heart, nervous sytem or digestive tract. Some had been badly frightened, thinking they were experiencing potentially fatal symptoms, and others had hyperventilated secondary to the symptoms. A few had been hospitalized on occasion for "recurrent gastroenteritis" or when gastrointestinal pathology was suspected on complaint of nausea and/or vomiting. Night-time or early morning headache accompanied by perspiration was not uncommon for those who had partaken of alcohol or sugar items before bedtime. A small number had neuroglycopenic symptoms, and most of these had also ingested alcohol earlier. A few had been thought to have a variant form of a seizure and were taking phenytoin. Several had accepted that they had psychiatric illnesses. Interestingly, few if any of these patients fitted the classic textbook description of "thin, tense, hyperkinetic young women; subjects with vagotonia and compulsive, conscientious and intense personality patterns."[10]

After recognizing hypoglycemia in several patients and reassuring them, there was still the problem of treating it. The majority of authors on the subject were offering a high protein, low carbohydrate diet; a few recommended eating sugar every two hours. Reflection on the physiology involved in the latter convinced me that it would be effective for a period of time but would eventually compound the problem, and my patients' reports of the low carbohydrate diet were disappointing. The food restrictions posed severe practical problems and afforded too low a level of satisfaction. The diet was "as bad" as their symptoms, they said, and compliance was poor. (I tried the diet myself for a few days and found they had not exaggerated.) Moreover, the dietary history preceding each patient's episode indicated that the symptoms did not follow the ingestion of starches but of glucose or sucrose in moderate quantities, especially when these were in liquid form. So I prepared a diet limited in sucrose and glucose. This diet proved acceptable and successful, and the results over a 24-year period have been quite good.

Crapo, Reaven, and Olefsky[11] confirm that glucose and sucrose elicit higher and earlier blood glucose levels than starches, and that the higher blood sugars are accompanied by greater insulin responses, with subsequent drop below the more gradually rising and falling blood glucose curves of starch ingestion. It is a rare physician who has not recognized this clinically and physiologically when he has advised his diabetics to control hypoglycemic episodes with sugar or juice in preference to a handful of rice or a potato.

The frequency with which bona fide hypoglycemic patients are encountered is steadily increasing, and there are multiple reasons for this. In 200 years, the sugar in the average American diet has increased from a yearly intake of four pounds to over a hundred pounds, and most of the patients experiencing reactive hypoglycemia have a much higher sugar intake than "average."

Symptoms of reactive hypoglycemia are commonly precipitated by the failure to take the usual glucose load at the "programmed" time, or as a response to an intake of food of a high sugar content (fruit juices, ice cream, candy, cake, pie, soft drinks, alcoholic beverages, etc.), particularly when fats, starches and proteins have *not* been taken with the sugar items. Many of the symptoms are a result of the hypoglycemia itself, and some are a result of the body's effort to correct and control the episode (comparable to receiving an injection of insulin and fol-

Dietary Limitations for Reactive Hypoglycemia

The primary goals of this diet are restriction of rapidly absorbed, refined sugar and a schedule of frequent small feedings.

- Avoid liquids high in sugar content: soft drinks (except diet drinks), beer, wine, bourbon, Scotch, gin, vodka; syrups; milkshakes; sweetened condensed milk; fruit juices.
- Avoid foods high in sugar content: doughnuts, cookies, pies, cakes; candy, ice cream; jellies, honey; chocolate (except bitter chocolate).

All the items above are particularly likely to cause symptoms if eaten between meals.

- Limit fruit and food products that contain fruit, such as fruited yogurt, to meals in which foods containing protein and/or fat are eaten along with them.
- Tea and coffee sweetened with sugar and sugared cereals should also be accompanied by foods that add protein and/or fat to the ingestion.

Many prepared foods contain a small amount of sugar. When such a food also contains protein and/or fat, the hypoglycemic response does not occur.

Some diets for hypoglycemia advise avoidance of "carbohydrates", including in this designation both sugar (dissaccharides and monosaccharides) and starches. The author has never encountered anyone in whom starches alone produced hypoglycemic symptoms and believes they may safely be eaten with other foods or between meals.

lowed by an injection of adrenalin). The episode is of brief duration (unless there is a rare block of glycogenolysis) and resolves completely without therapy, although it will abate much more quickly with the ingestion of the glucose solution. This same process is recognized as a complication of the rapid stomach-emptying of patients who have undergone subtotal gastrectomy; perhaps the stomach-emptying time of patients with reactive hypoglycemia is more rapid than that of "normals". Bockus has commented on an increased incidence of hypoglycemia episodes in patients with irritable colon syndrome.[12]

The diagnosis is not a laboratory one but is made on the basis of history, prompt and total relief of all symptoms by a diet limited in glucose and sucrose. Laboratory support for the diagnosis may be desirable in some instances, but the main reason for ordering a glucose tolerance test is to determine if diabetes might be the cause of the symptoms. Should you order the glucose tolerance test, it is important to notify the patient and the laboratory that the patient should remain there during the test, since symptoms may well occur at some time other than the non-sacred, non-magic ½- to 1-hour intervals. In such a symptomatic instance, a "stat" blood sugar will likely be about 40 mg/dl and confirm hypoglycemia's presence.[13] However, a brief delay in obtaining blood specimen may permit the body to correct the episode.

It must be emphasized that 20–30% of normal patients will have a blood sugar below lab normals at the time of casual measurements, and these asymptomatic persons should not be diagnosed as having hypoglycemia from this lab report, nor should they give diet therapy. A slowly falling blood sugar in an insulin-treated diabetic patient can be amazingly low without causing symptoms, and a rapid-falling one can cause symptoms before "low" levels are reached, and these observations also apply to patients with reactive hypoglycemia.

In the management of these patients, I try to acquaint them with the confusion which abounds regarding "non-hypoglycemia" and sincerely recommend that they avoid telling friends of their problem and diagnosis. Failing this (and most do!), they should avoid reading the confusing material that abounds and friends supply on the topic. Each patient is told that it can be very difficult to "sort out" nervous tension symptoms from those of hypoglycemia, and if the diet fails to alleviate his symptoms, other diagnostic possibilities must be reviewed again. These include arrhythmias, seizures, anxiety, caffeinism, TIA and the rare possibility that hypoglycemia is secondary to another etiology.[14,15]

Reactive hypoglycemia is not important in terms of morbidity or mortality. It is not an esoteric or "brilliant" diagnosis. As a matter of fact, the physician diagnosing it risks being regarded by his colleagues as one of the promoters of "non-hypoglycemia'. But it is appalling to think of the harm to the patient with reactive hypoglycemia who receives from a physician only "anxiety" as an explanation and only tranquilizers as therapy.

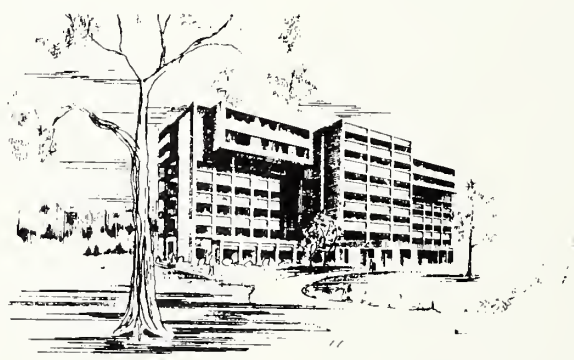
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Fig. 1



Fig. 2

Can You Diagnose This?

A medical puzzle prepared by William Johnstone, MD, *Charlottesville, Virginia*

A 58-year-old white woman with known papillary cystadenocarcinoma of the ovary was admitted 9/16/79 for increasing abdominal girth and shortness of breath. Figure 1 is a chest radiograph obtained at that time. Previous chest radiographs had demonstrated a left pleural effusion increasing a size over several weeks.

The effusion was thought to be responsible for her dyspnea and a chest tube was inserted on 9/18/79 with initial drainage of 1,050 cc of amber, clear fluid. Approximately 4½ hours later, 2,400 cc of similar fluid were removed. The thoracotomy tube was then put to a water seal; additional drainage by the morning of 9/19/79 was 1,550 cc. A pleural biopsy obtained at the time of the closed thoracotomy was positive for metastatic disease. Cultures of fluid were negative. The patient remained afebrile. Figure 2 is a chest radiograph obtained on 9/19/79 and Figure 3 is a followup film 25 hours later.

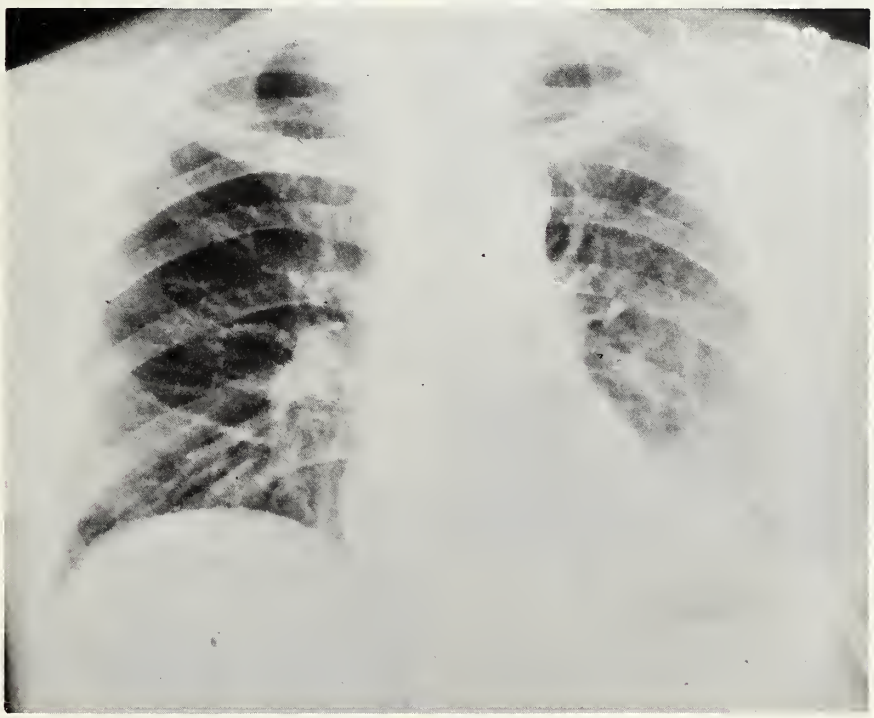


Fig. 3

The patient improved without additional therapy and was discharged without infiltrate or effusion on 9/26/79 and subsequently underwent chemotherapy for her primary tumor.

What is your diagnosis?

From the Department of Radiology, University of Virginia School of Medicine. Address correspondence to Dr. Johnstone at Box 170, University of Virginia Medical Center, Charlottesville VA 22908.

Edited by Michael C. Breachley, MD, Richmond, and Paul Dee, MD, Charlottesville.

Submitted 6-20-80.

DIAGNOSIS/DISCUSSION NEXT PAGE

DIAGNOSIS: **Reexpansion pulmonary edema.**

DISCUSSION

An unusual and sometimes fatal complication of thoracentesis for pleural effusion or pneumothorax is pulmonary edema, typically localized to the side of the procedure. The edema pattern may be seen as quickly as 1-2 hours after reexpansion. The mechanism is uncertain, though several investigators have indicated as multifactorial basis.

This entity is noticed after pulmonary collapse has been present for 72 hours or longer and with the rapid removal of quantities of fluid greater than 1,000-1,500 cc. Sewell et al[1] support the proposal that an anoxic injury secondary to alteration in pulmonary circulation in the areas of atelectasis increases the capillary permeability. Rapid removal of fluid or air from the intrapleural space will reestablish circulation abruptly, allowing the loss of protein and fluid into the alveolar space.

An additional factor may be the increase in the negative intrapleural pressure found after reexplansion of massive atelectasis. This appears to be caused by decreased surfactant activity and may operate to increase fluid out pouring into the alveolar space[1]. Certainly the method of reexpansion plays an experimentally demonstrable role, pulmonary edema being more likely with high negative pressure drainage systems.

Treatment of the condition is related to the degree of clinical distress. Steroids, colloids, diuretics and positive pressure ventilation have been used. Avoidance, however, is the best therapy. Delays beyond 72 hours in the drainage of air or fluid in acute accumulations of either are best avoided. Caution should be exercised in the approach to chronic atelectasis (> 72 hours). Removal of no greater than 1,000-1,500 cc per occasion is suggested by Trapnell and Thurston[2,3] as well as others.

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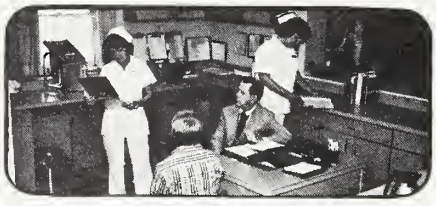
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Grand Rounds: Addison's Disease

From the Department of Medicine,
University of Virginia School of Medicine.
Discussed by Michael O. Thorner, MB, BS.

DR. MERLE A. SANDE: We will be talking today about Addison's disease. Dr. R. Brad Stamm will present the patient, and Dr. Michael O. Thorner will review the causes and discuss the diagnosis and medical management of adrenal insufficiency.

PRESENTATION OF CASE

DR. STAMM: A 32-year-old housewife was in good health until four years before admission, when she noted the onset of irregular menses and, later, amenorrhea. Two years before admission, the patient noted increasing fatigue and general malaise, weakness, weight loss and increasing skin pigmentation evidenced by persistent tanning, new freckles and darkening of moles. In May 1979 the patient developed diffuse myalgias and severe nausea and vomiting. She was markedly dehydrated when she entered a local hospital on 5/17/79. Laboratory results were remarkable for sodium 130 mEq/l, potassium 5.2 mEq/l, calcium 13.4 mg/dl, albumin 3.9 g/dl and a mild eosinophilia. A tentative diagnosis of anorexia nervosa and depression was made. The patient was treated with fluids and antidepressants, then discharged. She was readmitted one week later on 5/29/79 unable to walk and appearing severely dehydrated. Her blood pressure at this time was 68/48 mm Hg, her pulse 128/min; she was slightly disoriented. Again the patient responded to fluids and was discharged. However, when her symptoms recurred a few days after discharge, the patient was brought by her family to the University of Virginia.

Physical examination showed a totally disoriented, thin white female in marked distress. Blood pressure was 60 mm Hg by palpation, pulse 130/min, respirations 18/min and regular, temperature 37.9°C (r). Examination of the skin was remarkable for diffuse hyperpigmentation; also noted were an area of vitiligo on her right flank, increased pigmentation along her belt line, and pronounced hyperpigmentation in

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Edited by Michael J. Oblinger, MD, and Marcia Day Finney. Presented 7-5-79. Submitted 5-13-80.

the palmar creases, on the folds over the knuckles, on the folds over the knees and elbows, and on small scars. Axillary and pubic hair was diminished. The patient had sunken eyes and dry mucous membranes. The thyroid was diffusely enlarged, roughly 30 gm in size, without nodules. Pulmonary and cardiac examinations were normal. Abdominal examination revealed generalized tenderness without masses or organomegaly. Neurologic examination revealed lethargy and disorientation. Cranial nerves were intact and reflexes were diffusely hypoactive. Motor and sensory examinations were grossly normal.

Laboratory data: hematocrit 32%, WBC 6700/mm^3 (8 bands, 49 segmented PMNs, 33 lymphocytes, 4 monocytes, 6 eosinophils), platelets 271,000, PT 13.8/11.8 sec, PTT 45 sec. Sodium was 129 mEq/l, potassium 5.2 mEq/l, chloride 91 mEq/l, CO_2 14 mEq/l. Creatinine was 4.5 mg/dl, BUN 41 mg/dl, calcium 14.2 mg/dl, phosphate 6.0 mg/dl, glucose 59 mg/dl. Uric acid was 17.3 mg/dl, magnesium 1.5 mg/dl. Liver function studies were within normal limits. Urinalysis showed many urate crystals, 1+ proteinuria, moderate ketonuria and 1+ hematuria. EKG was within normal limits except for a sinus tachycardia of 125. Chest x-ray showed pulmonary venous engorgement and a relatively small heart. Abdominal film did not reveal adrenal calcification.

Hospital course: The patient appeared to be in Addisonian crisis. She was given a corticotropin-stimulation (Cortrosyn®) test, then immediately begun on hydrocortisone, 100 mg IV every 8 hours, and fluids. Her blood pressure responded quickly to the fluids, and, within two days, her hypercalcemia, hyperuricemia and electrolyte abnormalities were corrected. The patient's mental status returned to normal by the fourth hospital day.

The results of the Cortrosyn test revealed pre- and post-stimulation serum cortisol levels of less than 0.6 μg/dl. Thyroid function studies yielded an initial T_4 of 6.5 μg/dl, T_3 resin of 31% and thyroid-stimulating hormone (TSH) greater than 40 μIU/ml. A second TSH one week after hydrocortisone therapy was started was also elevated, so the patient was given slowly increasing doses of thyroid replacement. Thyroid antibodies were positive for the microsomal fraction. Adrenal and parietal cell antibodies were strongly positive. Follicle-stimulating hormone (FSH) and estradiol levels were markedly elevated. B_{12} was normal. A 24-hour ACTH infusion revealed a low aldosterone level, so the patient was also started on fludrocortisone. Lumbar puncture was within normal limits. The patient had a negative 5TU PPD and negative fungal serologies.

The patient was discharged on hydrocortisone, 20 mg each morning and 10 mg each evening at 6:00 PM. There was marked improvement in her clinical status. She will be followed at this institution as well as by her local physician.

DR. SANDE: The patient has agreed to discuss her case with us. We are interested in reviewing your history and noting the changes that occurred over the last four years. When did you first suspect that something was wrong?

PATIENT: I was 28 or 29 and I began having problems with my periods. They became very light and soon they stopped altogether. At one time, I went for 18 months without a period. My periods had previously been regular.

DR. SANDE: You say that you have never been able to tan well, then this last summer you laid out in the sun and got a good tan—but it didn't disappear, not even during the winter.

PATIENT: That's right. About a year ago, I began to notice spots on my skin; also, my moles became darker and the creases in the palms of my hands began to darken. I became extremely tired and easily fatigued, so that I spent my time lying down. I became increasingly weak, started vomiting, developed headaches. I couldn't walk by myself.

I went to the hospital the first time for five days. I was given fluids, and my energy level was boosted enough to get me through a few days. I was home for about a week, but I felt worse every day. Shots and pills for vomiting didn't help for too long. The second time I went to the hospital, I stayed longer. I was given fluids again, even given ampicillin for a few days, and the doctors gave me tranquilizers by mouth and by suppository.

DR. SANDE: The fluids perked you up temporarily, but you were still extremely fatigued when you went home?

PATIENT: Yes, I was so weak I couldn't walk by myself. My mother took me to her house, where I fell into rather a semi-sleep every day. My tongue was thick and people couldn't understand me. I would jabber sometimes and they wouldn't know what I was talking about. I wasn't aware of anything—it was like I was asleep. Then, when I came to the hospital, I had horrid dreams; they had to strap me down.

DR. SANDE: Then you were given the steroids—

PATIENT: I don't know what it is—yes, steroids—whatever they gave me, it's wonderful.

DR. SANDE: In a matter of days, then, you began to feel better?

PATIENT: I started feeling better as soon as I woke

Table 1. Actions of Cortisol

- Carbohydrate, protein, fat metabolism: increases gluconeogenesis, antagonizes insulin.
- Water metabolism: enhances water diuresis.
- Blood: reduces eosinophils and lymphocytes.
- Cardiovascular system: sensitizes arterioles to norepinephrine, increases angiotensin.
- Skeletal system: in excess, reduces growth and causes osteoporosis, antagonizes vitamin D in gut, increases calcium excretion.
- Neuromuscular system: psychiatric and muscular symptoms seen in cortisol excess and deficiency.

up and stopped having the dreams. Now I feel the best I've felt in years.

DR. SANDE: Thank you. Addison's disease is a very difficult diagnosis to make and it helps us to review cases like yours in detail.

This case is interesting because the patient was ill for such a long time. I am sure that the people close to her noted only a gradual change as she got worse. She is very grateful to the housestaff, who made the diagnosis in the emergency room when they saw the dark creases in her hands. We have asked Dr. Thorner to talk about Addison's disease.

DISCUSSION

DR. THORNER: It will be hard to compete with the patient in discussing this case, for she gives such a beautiful story. It is tragic that she had to be sick for two to four years before the diagnosis of Addison's disease—primary acquired adrenal insufficiency—was finally made.

I will discuss first the control of cortisol secretion, then discuss the physiologic properties of cortisol, and finally talk in particular about the cortisol deficiency state, Addison's disease.

The three glands under the control of the anterior pituitary are the adrenals, the gonads and the thyroid. These glands are driven by tropic hormones secreted by the anterior pituitary; the tropic hormones are controlled in turn by the hypothalamus, which secretes hypothalamic regulatory hormones. In the hypothalamic-pituitary-adrenal axis, corticotropin-releasing factor stimulates the release of corticotropin, which drives the adrenal gland to produce cortisol. Cortisol has metabolic effects which are essential to life—as we have seen, this patient nearly died as a result of cortisol deficiency. Cortisol feeds back to control and dictate its own requirements for ACTH by negative feedback at the hypothalamic and pituitary levels.

The adrenal gland produces mineralocorticoids, cortisol and androgens from cholesterol. In the female, the adrenal cortex is the primary source of androgens, so females who develop Addison's disease tend to lose body hair, axillary hair and pubic hair. This hair loss does not occur in males because testosterone is produced by the testes.

Table 1 summarizes the principal actions of cortisol. It is often rather difficult to distinguish the physiologic from the pharmacologic effects. Cortisol has profound effects on carbohydrate, protein and fat metabolism. An excess of cortisol—Cushing's syndrome—is a result of either cortisol overproduction or administration of pharmacologic doses of exogenous glucocorticoids and is characterized by centripetal obesity, an increase in body fat, protein wasting and development of diabetes mellitus. When there is a deficiency of cortisol, the liver fails to store glycogen, so the patient can present with hypoglycemia. Cortisol is required for metabolism of water and enables the body to excrete a waterload. In the absence of cortisol, a patient can become water-intoxicated.

Cortisol probably exerts a physiologic effect on hemopoiesis through the control of eosinophils. In the days before cortisol levels could be measured, the Thorn test was used: In the presence of adrenal insufficiency, eosinophil levels are elevated. It is not widely recognized that there is a circadian rhythm of eosinophils which is inversely related to that of cortisol—again, this implicates cortisol as contributing to the control of eosinophils. In high doses, cortisol can also reduce the body's lymphocyte count.

The physiologic effect of norepinephrine on the cardiovascular system is dependent on the presence of cortisol. Cortisol also increases levels of angiotensin; thus, although aldosterone is primarily regulated by the renin-angiotensin system, the mineralocorticoids are dependent to a certain extent on cortisol.

Exposure to an excess of glucocorticoids can adversely affect the skeletal system, particularly in children, causing a reduction in skeletal growth and osteoporosis. Two mechanisms account for this reduction in growth: suppression of growth hormone and interference with its effects, and, possibly, reduction of somatomedin and prevention of its effects peripherally. Finally, cortisol can affect the neuromuscular system; many patients with an excess or a deficiency of cortisol present with psychiatric and/or muscular symptoms, as this patient did.

I do not believe that the antiinflammatory action of cortisol is physiologic; rather, this is a pharmacologic property. It is extremely important to distinguish between glucocorticoid replacement therapy,



Fig. 1. Hyperpigmentation due to Addison's disease is shown in the top photograph occurring in the palmar creases, the normal hand at center contrasting with the two affected hands; in the extensor surfaces of hand joints (center photograph); and, in the bottom photograph, along the waist, where a belt and belt buckle exerted pressure.

which is given to restore physiologic glucocorticoid levels, and steroid therapy, which is pharmacologic and is given to patients with immune and neoplastic diseases. Complications of steroid therapy do not occur in patients receiving glucocorticoid replacement therapy.

The case presented today illustrates many of the signs and symptoms which classically appear in both chronic adrenal insufficiency and acute adrenal crisis. Chronic adrenal insufficiency can be very difficult to diagnose. Patients with primary adrenal insufficiency have high levels of ACTH because the pituitary is trying to drive the adrenal to secrete more cortisol. It is this high-level ACTH which causes hyperpigmentation, especially in areas of increased trauma. This patient's elbows, knuckles, and palmar creases were all highly pigmented, as was an abdominal area where a belt and belt buckle exerted pressure (Fig. 1). Vitiligo may occur in autoimmune Addison's disease. (It is not seen in cases of secondary adrenal insufficiency.) Fatigue is often the first complaint a patient will have. Usually, he will see a physician and be told that he is depressed—which he certainly is, but depressed because he is chronically tired.

Chronic adrenal insufficiency is accompanied by gastrointestinal disturbances, including anorexia, nausea, vomiting and weight loss. The patient will complain of dizziness on standing. He may present with seizures as a result of hypoglycemia; this clinical picture should alert the physician to the possibility of Addison's disease. Loss of body hair may occur, especially in women.

In chronic adrenal insufficiency, the laboratory results may be relatively normal. Therefore, if a patient has symptoms but has normal electrolytes, a diagnosis of chronic adrenal insufficiency cannot be ruled out. The ACTH will be elevated, especially for the cortisol, in primary adrenal insufficiency. Often, the patient has been in a compensated state for several months to a year, in which case the ACTH has been stimulating the few remaining adrenal cells to produce adequate amounts of cortisol. The 8:00 AM cortisol in such a patient may in fact be normal, as may the urinary steroids (although, usually, these are low).

Unfortunately, a diagnosis of chronic adrenal insufficiency is rarely made and then often after the patient goes into adrenal crisis. What prompts adrenal crisis is often unclear; it may be a psychological or physiological stress, e.g., a minor infection of the sort a normal person would shake off. The patient in adrenal crisis will present with nausea, vomiting, muscular weakness, hypotension and, often, abdominal

pain and diarrhea—and, eventually, coma. Unfortunately, a considerable number of these patients have come initially under surgical care, have been diagnosed as having an acute abdomen, and have been subjected to a potentially fatal laparotomy.

In adrenal crisis, the laboratory findings may include the following: (a) elevation of the total eosinophil count in the blood due to the deficiency of cortisol; (b) reduction of serum sodium due to mineralocorticoid deficiency, inability to excrete a waterload, or abnormal intra- and extra-cellular distribution of water; (c) elevation of plasma potassium in association with the mineralocorticoid deficiency; (d) elevation of blood urea as a result of hypotension and reduced renal blood flow accompanying a decreased glomerular filtration rate and diminished renal function (usually there is a dissociation between the rise in urea and the creatinine); (e) hypoglycemia as a result of deficient glycogen stores; and (f) elevation of the serum calcium due to reduced calcium excretion and an increased binding of calcium to plasma proteins. Patients with primary adrenal insufficiency will have high plasma levels of ACTH and low plasma cortisol levels. Hyperpigmentation may be evident, and the date of onset of the condition may be determined by asking the patient to date his scars and observing which scars are pigmented and which are not.

Treatment of the patient in acute adrenal insufficiency is outlined in Table 2. Blood should first be drawn for a complete blood count and differential, liver function tests, serum calcium and serum electrolytes. A plasma cortisol certainly should be drawn. Thyroid function tests should be done because of the possibility of associated autoimmune thyroid disease. Without delay (and without waiting for the test results), the patient should be given dexamethasone to correct his cortisol deficiency. I recommend that the synthetic glucocorticoid be given because it will not interfere with the effects of ACTH at the adrenal level and so will permit the performance of tests to establish the diagnosis. The patient should receive 2 mg of dexamethasone intravenously or intramuscularly every 12 hours. Mineralocorticoids probably need not be given if there is adequate fluid replacement. Within the first 30 minutes to 1 hour, the patient should receive one liter of D_5 normal saline; 3-4 liters of D_5 normal saline should be given every 24 hours thereafter. An ACTH infusion—40 units every 12 hours for 48 hours—should be started promptly, with plasma cortisol and aldosterone measured at zero, 4, 8, 12, 24 and 48 hours; the patient's response to this infusion may indicate whether his adrenal insufficiency is primary or secondary.

Table 2. Treatment of Adrenal Crisis.

1. Draw blood for CBC, SMAC, plasma cortisol, thyroid function studies and autoantibodies.
2. Give dexamethasone, 2 mg IV or IM every 12 hr; if indicated, give mineralocorticoids.
3. Within first 30-60 min, insert IV cannula and give 1 liter D_5 normal saline.
4. Give 3-4 liters D_5 normal saline every 24 hr as needed.
5. Give ACTH infusion, 40 U/12 hr, for 48 hr. Measure plasma cortisol (and aldosterone) at zero, 4, 8, 12, 24, and 48 hr.

No purpose is served in testing the entire hypothalamic-pituitary-adrenal axis until adrenal function is assessed and determined to be normal or abnormal. We use two stimulation tests: the Cortrosyn test to confirm the diagnosis of adrenal insufficiency and the 48-hour ACTH infusion, the results of which can help one distinguish between primary and secondary insufficiency.

In the Cortrosyn test, the patient is given 1-24 synthetic ACTH (cosyntropin), 250 μg intramuscularly, and the resultant rise in plasma cortisol is measured, a rise of less than 7 μg/dl constituting an abnormal response (normal: rise of >7 to level of >21μg/dl).

In the 48-hour ACTH infusion, patients with primary adrenal insufficiency may demonstrate early in the infusion a rise in plasma cortisol, but the level will not reach 21 μg/dl. Furthermore, in spite of the continued presence of ACTH, the plasma cortisol levels begin to fall as the adrenal cells become depleted of cortisol. In contrast, patients with secondary adrenal insufficiency have low basal plasma cortisol levels, but ACTH acts to elevate the cortisol within 8 hours; at 24 and 48 hours, levels rise progressively to greater than 21 μg/dl. Alternatively, the urinary 17-ketogenic or hydroxycorticosteroid excretion may be measured in patients with adrenal insufficiency, and the pattern of response is similar to that seen in the plasma cortisol; however, collections must be made for 24 hours before the ACTH infusion begins, then repeated during both days of the infusion test. Even if the hypothalamic-pituitary-adrenal axis has been suppressed by chronic glucocorticoid therapy, almost all patients who have intact adrenal glands will respond to the 48-hour ACTH infusion.

Primary adrenal insufficiency may be a congenital defect (usually a result of a congenital enzyme defect) or it may be acquired. The principal causes of primary acquired adrenal insufficiency (Table 3) are autoimmune disease (80% of cases) and histoplas-

Table 3. Acquired Primary Adrenal Insufficiency.

- Autoimmune disease (80%).
- Granulomatous disease: tuberculosis, histoplasmosis.
- Infiltration of adrenal glands: metastases, amyloid, hemochromatosis.
- Hemorrhage/Infarction of adrenals.

mosis and tuberculosis (in the United States, histoplasmosis is now a more frequent cause than tuberculosis), and, more rarely, infiltration of the adrenals by metastases, amyloid or hemochromatosis; and, rarely, hemorrhage and/or infarction of the adrenals (e.g., in association with septicemia, trauma or severe hypotension).

ACTH-mediated hyperpigmentation is a hallmark of primary adrenal insufficiency.

Autoimmune diseases associated with adrenal insufficiency include vitiligo, thyroid disease, hypoparathyroidism, diabetes mellitus, pernicious anemia due to gastric parietal cell antibodies and premature ovarian failure. The patient whose case was discussed today developed amenorrhea two years before she showed any signs of adrenal insufficiency; her elevated serum FSH was indicative of ovarian failure, presumably autoimmune in nature.

When it is clear that a patient has primary adrenal insufficiency, associated autoimmune disease should be considered and the presence of autoantibodies sought. Thyroid and gastric antibodies are detected in about 40% of patients, while adrenal antibodies are found in 80% of women and 40% of men with Addison's disease.

Thyroid function tests, including measurement of TSH, are indicated for patients with primary adrenal insufficiency. Conversely, the possibility of adrenal insufficiency should be considered in cases of primary hypothyroidism, since thyroid replacement therapy could precipitate adrenal crisis in a patient with undiagnosed Addison's disease. The patient discussed today had normal thyroxine and T_3 resin levels, but her TSH was abnormal; I suggest that the elevated TSH may have been maintaining her thyroid function and that she was in fact euthyroid. In patients with chronic cortisol deficiency, TSH levels are often high. One week of cortisol therapy may not be sufficient to bring the TSH down; with cortisol replacement alone, this patient may have remained euthyroid and her TSH may have dropped to normal.

The vitamin B_{12} level should be measured in patients with primary adrenal insufficiency, for these patients are at risk to develop pernicious anemia. With Addison's disease, oophoritis and ovarian failure, the patient discussed today may well develop pernicious anemia, since she has positive gastric parietal cell antibodies. I would recommend as well that a glucose tolerance test be done when this patient is euthyroid and eucortisol to confirm that she is not diabetic. Skin and serologic tests and chest and abdominal x-rays should also be done to determine whether she has tuberculosis or histoplasmosis.

Secondary adrenal insufficiency is a result of hypothalamic-pituitary disease or, more commonly, interruption of chronic steroid therapy. Neither aldosterone deficiency nor hyperpigmentation occurs in secondary insufficiency. In cases of secondary insufficiency, skull x-rays should be taken to evaluate the size of the sella turcica for evidence of pituitary tumor. Similarly, visual fields should be plotted. If indicated, dynamic tests of hypothalamic-pituitary function should be performed. Other neuroradiologic procedures—e.g., pneumoencephalogram or CT scan—should be done as indicated.

Replacement therapy for the patient with adrenal insufficiency is outlined in Table 4. The preferred glucocorticoid replacement is hydrocortisone, not cortisone acetate, which must be converted to hydrocortisone in the liver. Hydrocortisone is well absorbed. The patient should receive 20 mg of hydrocortisone orally in the morning upon waking and 10 mg at 6:00 PM. It is important that the glucocorticoid be given at 6:00 PM rather than at bedtime; we want to mimic as closely as possible the normal circadian rhythm of cortisol in the body, and the lowest cortisol levels are seen at midnight.

Patients who are known to be deficient in mineralocorticoids should receive adequate replacement therapy—e.g., fludrocortisone, 0.05 mg daily. It should be stressed that patients with autoimmune Addison's disease are not necessarily mineralocorticoid-deficient; the autoimmune process may affect only the zona fasciculata, so that the patient has an isolated cortisol deficiency but normal aldosterone

Table 4. Replacement Therapy for Patient with Adrenal Insufficiency.

- Glucocorticoids: Hydrocortisone, 20 mg on waking, 10 mg at 6:00 PM. *Note*: To be increased in times of stress to 20 mg po every 6 hr *or* 100 mg IM every 6 hr.
- Mineralocorticoids (if indicated): Fludrocortisone, 0.05 mg daily.
- Other Replacement Therapy: Consider appropriate replacement therapy for associated autoimmune disease or any associated hypothalamic/pituitary disease.

secretion. Therefore, it is important to assess aldosterone as well as cortisol levels during the 48-hour ACTH infusion test.

Any autoimmune conditions associated with the patient's adrenal insufficiency should be treated appropriately (e.g., thyroid replacement, vitamin B_{12}, sex steroid hormones, etc.). In patients with secondary adrenal insufficiency, any associated hypothalamic or pituitary disease should be fully evaluated and treated.

The patient receiving glucocorticoid replacement therapy must be instructed to increase the dose of hydrocortisone in times of physical and/or psychological stress to 20 mg orally every 6-8 hours. Patients too ill to take hydrocortisone by mouth should receive 100 mg of hydrocortisone intramuscularly every 6 hours (the conversion factor for hydrocortisone is 20 mg oral to 100 mg intramuscular). If hydrocortisone is given intravenously, it should be given every 4 hours because its half-life is relatively short.

In caring for the patient with Addison's disease, the physician must explain the condition thoroughly to the patient and the patient's family; the patient must understand that his body is not able to produce cortisol on its own and so cannot respond appropriately to psychological or physiological stress. It is also the physician's responsibility to ensure that a MedicAlert form on the patient is completed and registered on file, so that physicians treating the patient in an emergency will know of his adrenal insufficiency.

DR. SANDE: Thank you for an excellent review.

DR. KENNETH R. CRISPELL: Where does this patient live?

DR. THORNER: She lives in West Virginia, near Beckley.

DR. CRISPELL: I wanted to know whether she lives in the Shenandoah Valley—possibility of histoplasmosis.

DR. SANDE: Dr. Crispell was the first person to note years ago that histoplasmosis is a cause of adrenal insufficiency. There is a "histoplasmosis belt" in the Shenandoah Valley from Harrisonburg north and particularly in the Winchester and Front Royal areas.

DR. CRISPELL: Many people may not know that some of the basic work in adrenal physiology was done in the 1930s at this institution by Drs. Sydney Britten and Edward Corey. Dr. Britten has told me that they had adrenal cortical extract available in the 1930s to keep their experimental animal—the opossum—alive, but the then chairman of medicine would not let them use it on patients.

It is a wonder that this woman did not die. Certainly, some patients with Addison's disease die from glucose infusions. Thorn pointed out years ago that if a patient responds to glucose with a fever and a drop in blood pressure, the physician should think about hypoadrenalism. I certainly would not give glucose to a patient like this woman until I had first given dexamethasone.

DR. THORNER: I agree totally. Also, if you see a patient who has hyponatremia, hyperkalemia and a fever, you should consider adrenal crisis, for fever can result from adrenal insufficiency alone. Often, physiologic glucocorticoid replacement alone will reduce the fever.

DR. NARINDER ARORA: Presumably, this patient's ovarian failure is secondary to autoimmune oophoritis. Will you replace her estrogens and progesterone so that her menstrual and sexual functions return?

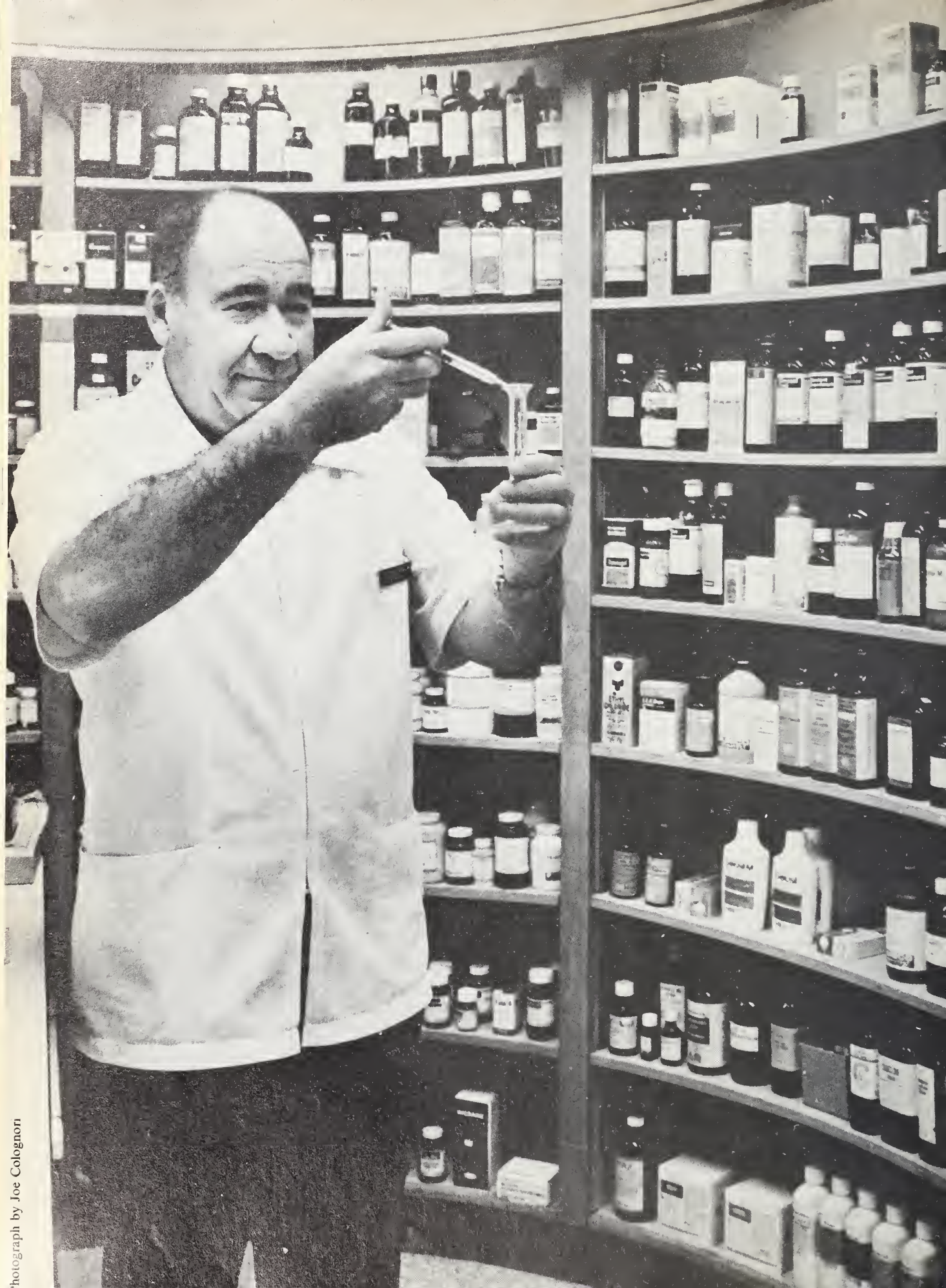
DR. THORNER: I think it is mandatory that we replace her estrogens. She thought she had gone through an early change. At the other hospital, her loss of libido was seen as a symptom of anorexia nervosa. Estrogen replacement therapy is given not only to restore sexual function but to prevent the premature development of osteoporosis.

DR. SANDE: I thought that the increased pigmentation seen in Addison's disease was caused by melanocyte-stimulating hormone (MSH) which increases with ACTH. Is this not the case?

DR. THORNER: In the normal adult human, neither α- nor β-MSH are present in the circulation. However, β-MSH *immunoreactivity* is present and reflects the presence of β-lipotropin. β-lipotropin is an even larger molecule than ACTH; in contrast, β-MSH has only 17 amino acids compared to the 39 in ACTH. β-lipotropin is secreted along with ACTH by the pituitary but has only one-fifth the skin-darkening capability of ACTH. Thus, in Addison's disease both circulating ACTH and β-lipotropin are elevated, but most of the hyperpigmentation is attributable to ACTH alone.

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Photograph by Joe Colognori

VIRGINIA MEDICAL
EDITORIAL

On Taking a Dare

WHAT I KNOW about taking dares is what I learned from my wife, who first learned it as a little girl growing up in the parsonage at Heathsville. It goes something like this:

If you refuse to take a dare,
You'll kill a pig and eat his hair.

Today I want to talk a little about taking a dare. As a totally apolitical person addressing a supremely apolitical organization, I propose to philosophize on the practical politics of how an organization such as the United States Pharmacopeia deals with the federal government.

All of us here today represent our own organizations, and surely every organization at one time or another has faced the situation in which government proposes to do something which our organization finds intensely controversial. It may propose to regulate our activities, restrict our flexibility or affect our vital interests in any one of a hundred ways; without any question it will increase our paperwork and our tax burden. For these reasons most of us have a knee-jerk reflex of immediate and complete rejection of any such initiatives.

Presented as the Presidential Address at the Quinquennial Meeting of the United States Pharmacopeial Convention, Inc., on April 18, 1980, at the Hyatt Regency Hotel, Washington DC.

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Then, inevitably, we have our second thoughts. The cerebral strategists among us always raise the question, "Why shouldn't we do this for ourselves before the government does it for us (or to us)?" The American Medical Association, of which I have long been a member, has used this strategy quite effectively at times. Other groups, usually of a more conservative bent, have a well-worn counterstrategy to that: "Beware! It's the old Bridge-on-the-River-Kwai gambit. The feds are counting on just this reaction on your part. Nothing would delight them more than for you to go ahead and do all their work for them. If you succeed, they get the credit. If you fail, the result will be disaster, and you'll get all the blame for it."

Haven't we all heard these same arguments, directed toward a hundred different issues, over and over in the last twenty years? Don't we always come away confused, shaking our heads, not knowing what to think, wishing the whole problem would go away? But it won't. We have been offered a dare, and we must react one way or another. Basically, we are resentful because it all seems a throwback to more childish patterns of behavior. Is there any mature technique for analyzing the whole process in order to decide which course of action is best? This is what I propose to do today with regard to Pharmacopeia involvement in patient labeling information.

In an exercise like this we should always begin by spending a little time asking why the government comes up with the specific initiatives in the first place. The executive branch, as we all know, has a

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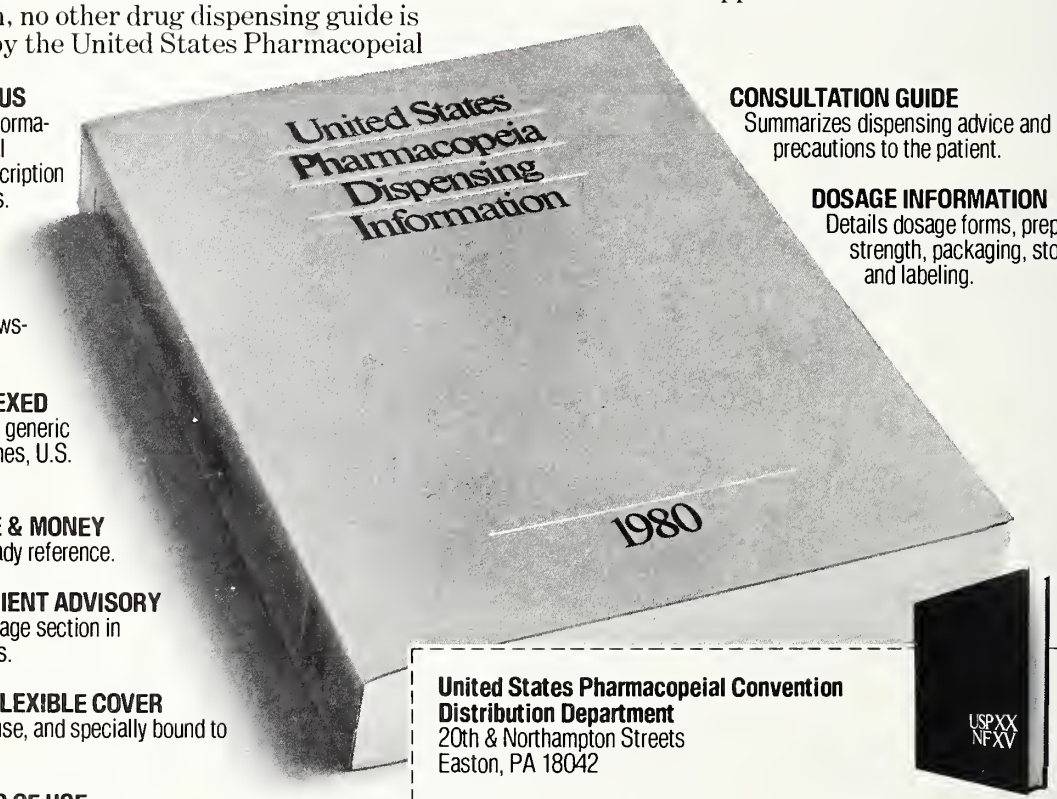
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constitutional obligation to carry out the law of the land, and the law of the land is made in Congress. Our congressional representatives function mainly in order to translate into law the perceived will of the people. Vox populi, vox Dei. This is the democratic system of government.

So when the executive branch proposes to do something that affects you vitally, think a bit before your knee-jerk reaction. Is this truly the will of the people? Is it the direct result of legislation that has been passed and signed into law? Do the President and his cabinet throw behind it the full weight of executive power? If the answer to all of these things is yes, then you and your organization would be well advised that opposition is a form of slow martyrdom. Sooner or later the good citizen recognizes that, in a democracy, the majority rules. It may be responsible leadership to go back to your constituent organization and to educate its members into an acceptance of the newer order of things. If you fail in your attempts to do that, you have two choices: You must either fight the good fight for your people, or resign.

Situations like that, so-called political Alamos, are really uncommon, however. Often the perceived voice of the people is merely the voice of a strong lobby, and most lobbies are only as strong as their media blitz. The congressional majority may be slim and patched together only by a fragile, impermanent compromise. Executive support may be lackadaisical or even lacking completely. And most commonly of all, the initiative indeed came not from the voice of the people but from within the federal bureaucracy itself, reacting to pressure groups, straightening jurisdictional fences, trying to move in to fill a vacuum between itself and a competing agency. In those situations a stubborn opposition has at least a fighting chance, and that chance improves in direct proportion to the vigor of the fighters.

And there is of course the third way. The third way begins with a careful analysis of the factors which stimulated the federal action, followed by a dispassionate consideration of these same factors as potentially legitimate stimuli to your own organizaton. Would such an action, if carried out by your own organization, have intrinsic validity—intellectually, ethically, historically? Does it represent what is best for your organization, what the best people in your organization would support? What enemies does it make for you and what potential friends? If the challenge can be thus analyzed methodically, and if the bottom line indicates that the proposed action is generally compatible with and even advantageous to your organization, then there is every reason to seize the initiative, to get an early start, and to put the imprint of your own traditional values on the reality that is being shaped.

In this context let us review the United States' Pharmacopeia's role in providing dispensing information for patients. In a strong series of resolutions, the delegates to the convention of 1970 urged us to find new ways to make the Pharmacopeia more meaningful and more useful to our constituent professions of medicine and pharmacy. In obedience to those mandates, our own vox populi, we bent our best efforts to providing more dispensing information in USP XIX. Our readers liked what they saw. And lo and behold, keeping pace with all this endogenous positive feedback, we sensed the steady growth of widespread public pressure for improved patient labeling. The timing was beautiful. We felt that we were on the right track and moving in the right direction, that the support we got from our physicians and pharmacists was being matched, pari passu, by the pressure that the Federal Drug Administration was feeling from the public sector. We had every reason to be grateful for those farsighted delegates to the convention of 1970, who had given us the original mandate that was propelling us down the right path.

Our position was not immediately popular. We had some very serious discussions with the American Medical Association before working out a format which it could support. Our talks with the American Pharmaceutical Association have been even more lengthy and serious, but I believe that it now views USP Dispensing Information as at least the preferred alternative. And in discussions with leaders in the drug industry, winning support has been a step-by-step process but one that is making steady progress. What has been crucial in every discussion is an explanation of what the United States Pharmacopeia has been and is can be—and why we dared to compete with the FDA at all.

Meanwhile, back on Fishers Lane, the FDA was proceeding toward its own concept of patient labeling, well aware of our interest, and neither encouraging or discouraging it. Initially, federally-mandated patient labeling was proposed as an integral part of every drug regulation reform bill. With the failure of these to pass both houses, former Commissioner Donald Kennedy decided, in June 1979, that the FDA should proceed with patient labeling information on its own initiative. A series of public hearings was held in late summer of 1979. All of you are familiar with the vigorous negative response which these elicited. For us, sitting on the sidelines, it was deliciously gratifying to hear, over and over again, the plea for the FDA to stay its hand until the Pharmacopeia's program had been given a full opportu-

nity to reveal its capability and its limitations.

As we stand here today, United States Pharmacopeia Dispensing Information is a fact of professional life. It was issued on January 2, 1980, and to date we have sold something like 17,000 copies. A number of versions are being tested for acceptance by non-English-speaking consumers, for tape presentations, for a variety of distribution methods. Meanwhile the FDA continues its planning phase.

Has the Pharmacopeia won a victory, or just a race? In either case, it has been very close. As Wellington said of the Battle of Waterloo, "It has been . . . the nearest run thing you ever saw in your life." As Nathan B. Forrest might have said, we may have gotten there the firstest, but it is by no means sure that we got there with the mostest. At best we can say that we have come away from it with, so far, the mostest friends and allies.

Now the question confronting us is the one posed a little earlier. Was this whole effort in the best interest of the US Pharmacopoeia? As in so many cases, only time will tell. We would take solid comfort, however, in recounting these solid facts: Our move was urged upon us by our own constituents' delegates ten years ago. It is a move first translated into action in USP XIX and strongly reinforced at that stage, a move which has gradually won more and more friends and supporters because it poses a reasonable, and we hope a viable, alternative to an expensive federal program. It has once more demonstrated that we can, on occasion, move faster, more flexibly, and always less expensively, than the federal government. We have always said these things, but every now and then it's nice to have people believe them. Racing improves the breed, but winning improves the image.

The story is far from over. In all seriousness, I have to warn you that this whole issue will not be finally resolved this year, or even the next. The public and consumer pressures that motivated the Federal Drug Administration to begin its activities in this field are still there. The critical question is whether the US Pharmacopeia Dispensing Information fills the bill. Over and over, we have said and will continue to say, the Dispensing Information is a system, but not a mandatory inflexible system. It is a tool. You can use it and use it enthusiastically, imaginatively, flexibly, and thus effectively, or you can toss it into the tool shed and let it grow rusty and useless. If you do, rest assured that a massive federal machine, clanking and snorting, will come and do the work that you could and should have done yourself with that tool. Use it—or lose it.

In summary, there are three ways to react to a federal initiative: acquiescence, outright opposition, and competition. We could have acquiesced to the FDA initiative, scuttling our own (not with a bang but a whimper), and contenting ourselves with writing and rewriting the sacred book of standards—and nothing more.

We could have opposed the FDA's program for patient labeling, tooth and nail, and in fact we did object to its scope, its inflexibility, its price tag, but only because we felt competitive and thought we could do it better. It was to avoid these objections as well as to utilize our own time-tested machinery that we have created our own Dispensing Information. We think we have a good product, and we're already planning to make it better. Racing gets to be a habit. Now, in retrospect, we can see that to have refused this dare would have repudiated our whole history. Now we know what we are and what we can do.

One of the things that people have asked me frequently over the last five years is "What is it with the USP? How do you get so many people to work so hard without paying them? What is your secret?" The story of our involvement with the Pharmacopeia's Dispensing Information answers that question more truly than any pat explanation. Our secret is to look to the future; to seek out challenges, not to duck them; and to offer our volunteer experts two things: first, a chance to involve themselves in something truly competitive, something on the very forefront of drug information, and second, a chance to act out our basic patriotic impulses—to do something constructive for our country—all as a gift. Two carrots, and no sticks.

There is not enough money in the world to pay scientists of the caliber of our Committee of Revision merely to churn out rote work conceived and assigned by some faceless higher-up. Contrariwise, there is no prize that can equal the exhilaration of that group in the grasp of a new idea, brain-storming, working together in a voluntary effort to create something for the good of their professions, their nation, and themselves—and to get there first.

How paradoxical it is—that we started with opposition to a federal mandate, and ended up competing to render a national service—and all for free. But this healthy paradox, like the willingness to take a dare, is a traditional part of the robust American character—and an essential part of the American dream.

This is what has kept the United States Pharmacopeia going for 160 years and this is what gives it, in 1980, its most refreshing rebirth in recent years. It's really all very simple. There is no substitute for being on the cutting edge. It is the essence of our organization to be there, and that is where we plan to stay.

JOHN A. OWEN, JR., MD

VIRGINIA MEDICAL OBITUARY

Hugh J. Hagan, Jr., MD, and Robert C. Hagan, MD

Dr. Hugh Johnston Hagan, Jr., and Dr. Robert C. Hagan, brothers who had practiced internal medicine together in Roanoke for many years, died within eight hours of each other on September 12 at the Community Hospital of Roanoke Valley, where both were hospitalized for heart ailments.

Dr. Hugh Hagan, 62 years old, was in the hospital due to a general worsening of a heart condition that had forced his retirement 18 months ago and had led to numerous disabling complications, including the amputation of one leg. He died at 4 o'clock in the morning.

Dr. Bob Hagan, 58, who had suffered a heart attack several years ago, was hospitalized on September 7 on complaint of chest pains and was undergoing tests to determine his candidacy for bypass surgery. He died unexpectedly at 2 o'clock in the afternoon.

The two men had a close relationship, and their lives ran parallel. Both were born in Roanoke, both were graduated from Roanoke's Jefferson High School and from Hampden-Sydney College and Johns Hopkins Medical School, and both interned at Bellevue Hospital in New York. Dr. Hugh Hagan was a chief medical resident in internal medicine at Bellevue and Dr. Bob Hagan served his residency at the University of Maryland Hospital, Baltimore. Both began their practices in association with their father, the late Dr. Hugh J. Hagan, Sr., and after his death continued the practice together.

Though assigned to different theaters, both men were Army captains in World War II, Dr. Hugh Hagan serving in France and Dr. Bob Hagan in the Pacific.

And both were long-time members of the Roanoke Academy of Medicine and The Medical Society of Virginia.

Daniel Leavitt, MD

Dr. Daniel Leavitt, Roanoke pathologist, died May 21 at the age of 61. He received his medical degree from the New York University College of Medicine in 1941 and was a long-time member of the Roanoke Academy of Medicine and The Medical Society of Virginia.

W. Nash Thompson, MD

Dr. W. Nash Thompson, Stuart, whose energetic humanity was expressed in 50 years of general practice, in unstinting service to community endeavors, and in repeated posts of leadership in organized medicine, died September 1 at R. J. Reynolds-Patrick County Memorial Hospital in Stuart. He was 77 years old.

Born in Patrick County, Dr. Thompson was graduated from Stuart High School and then served for a time as principal of the school in Red Bank, southwest of Stuart in Patrick County. But he returned to his schooling and was graduated from the University of Richmond in 1923 and from the Medical College of Virginia in 1928. He trained at the Lewis-Gale Hospital, Roanoke, and then returned to Stuart, where he practiced until poor health forced his retirement in 1978.

Dr. Thompson had been president of both the Patrick Henry and Stuart Medical Societies and had served The Medical Society of Virginia in numerous capacities, notably as a member of Council for eight years and a member of the House of Delegates for six years. He became a member of the 50-Year Club in 1978 and was a life member of the Southern Medical Association. His many other medical affiliations included the American Medical Association and the US Committee of the World Medical Association.

In 1971 The Medical Society of Virginia conferred on him the Community Service Award in recognition of his countless contributions to the community in which he lived all his life, including service on the Town Council for 16 years. The community honored him over and over, with Dr. Nash Thompson Days on two separate occasions and such accolades as a testimonial dinner by the local hospital; the Paul Harris Fellowship Award of the local Rotary Club, which he had served as president; and the Distinguished Patrick Countian Award conferred by the Patrick County High School.

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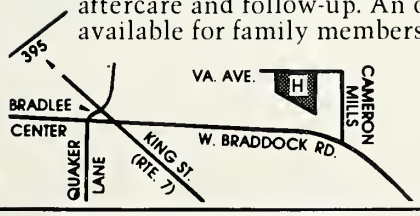
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WHO WHO'S



If you heard Dr. Jerome E. Adamson talk about his enjoyment of duck shooting and fishing with cronies at an abandoned Coast Guard station on Cedar Island off Virginia's Eastern Shore, or the pleasure he receives from puttering around the greenhouse in his Norfolk home, you might believe he could retire from his plastic surgery practice with no regret whatsoever.

He makes a strong case. "I'm just active. The family enjoys skiing in the winter, and we all like to surf and sail and swim at Virginia Beach in the summer . . . . . I enjoy my work very much and also enjoy other things. I could retire tomorrow and be happy with many other endeavors." You almost believe him.

But then as he talks about the year that began for him on October 2, his 52nd birthday, you begin to doubt. That date also marked his installation as president of the American Society of Plastic and Reconstructive Surgeons. President Adamson has extensive plans: "The plastic surgeons have traditionally been a 'casual' society, loosely organized with no basic plan, a responding society. That has to change."

Three years ago, as ASPRS secretary, he was the one who had to respond to a Federal Trade Commission subpoena by taking boxes of records to a Washington hearing. The FTC had challenged the board certification process, charging collusion to prevent competition.

"Four lawyers sat at the table grilling me like I was a felon in a courtroom," he remembers. "I asked, 'Why are you doing this? I haven't even gotten a traffic ticket.' One of them told me, 'This is a manifestation of social progress. It will all be over in a few months.' I said, 'You'll see.' That was December 1977."

Speaking firmly, he continues: "The FTC issued a cease and desist order against us. They picked on us because they thought we were a small, weak, ineffectual group. We assessed our 2,000 members $400 each; we had to get lawyers and prove the boards were valid. It took three years and $800,000, but we learned how to deal with big government. They quit. Last March the cease and desist order was withdrawn."

Answering a phone call from a young resident, Dr. Adamson gently makes suggestions, then returns to the coming year. "It's time to turn the society around. We're facing a new problem, patient exploitation by non-certified physicians advertising themselves as plastic surgeons. We're already seeing it in Virginia. We're getting bids from advertising agencies for a national campaign on how to choose a surgeon."

Retirement?

Dr. Adamson talks in a low key of his childhood in the Ohio River Valley and his undergraduate years at West Virginia University. "My father gave me $10 a month allowance and always had a summer job waiting for me. I saved my GI Bill for medical school." That was at Duke, where he also did his general surgery and plastic surgery residencies and met and married Jo, ". . . a great person, she keeps the family together." The family includes three children, all with an interest in music and the active life.

A specialist in reconstructive plastic surgery and hand surgery, Dr. Adamson is professor of plastic surgery at Eastern Virginia Medical School. He obviously likes teaching. "I'm trying to organize an art class at Old Dominion University for our residents. They must be able to see, to have an eye for contour. I tell them to look at *Vogue* and other fashion magazines, get into their mind's eye what's beautiful and what's ugly. You must know before you start cutting what you want it to look like."

Twenty years ago he did a six-month hand fellowship at UCLA. This year he initiated one at Norfolk's DePaul Hospital, where he is chief of plastic surgery. He likes to read and to "write medical things." He has written extensively and is on the editorial board of the ASPRS journal. At home, the greenhouse and conservatory keep him happily occupied, "It's very exciting to come home in mid-winter and see blooming plants. I enjoy puttering with them while I'm watching football on television." He thinks the Redskins are in trouble without running back John Riggins.

Despite the contentment, it is a safe bet that Adamson does not plan on retiring any time soon. "The ASPRS presidency is more than a half-time job, but I've got six great partners." About the banquet at his installation, "I wanted to have Phyllis Diller come out of a big cake, but that's too much; we probably won't do it." —VERN JONES

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President Wootton: A Strong Sense of Direction



President Wootton. See also page 862.

"Year of the Grass Roots". So Dr. Percy Wootton has named the year of his MSV presidency, 1980-1981, signifying his intention to strive for stronger participation by those Medical Society of Virginia members who may feel themselves far removed from the center of action. The goal is a natural one for Dr. Wootton; he is a grass roots man himself, reared on a dairy farm in Nottaway County.

In a recent interview he described to a VIRGINIA MEDICAL reporter his presidential directions for the coming year. Here they are.

1. Increased communication with "grass roots" members to foster their more active participation. An increase in the membership itself by attracting more house staff residents and more women physicians.
2. Representation in the House of Delegates of Virginia's specialty societies.
3. Establishment of a foundation to receive tax-deductible gifts to The Medical Society of Virginia.
4. An expanded news bureau.
5. Enrollment of every Society member in VaMPAC.
6. Initiation of a medical advisory group as liaison to Virginia business and labor.
7. Stronger mutuality between the Society and the Auxiliary.

Dr. Wootton was off and running toward Goal No. 1 before this issue was printed. Late last month he was host to the presidents of Virginia's component medical societies and their spouses at a meeting at Society headquarters followed by brunch at the Wootton home. Purpose of the meeting: to give these "grass roots" leaders a chance to tell Dr. Wootton how the state society can enhance its helpfulness to them. This meeting, Dr. Wootton intends, will usher in increased communication between these local organizations and





The Medical Society of Virginia, of which they are the firm foundation.

On his goal to increase MSV membership, he had this to say: "I see several ways we can increase our membership. One way is through appealing more to Virginia's women physicians. There are 989 women licensed to practice in Virginia, but only 238 of them belong to the Society. When I was graduated from MCV in 1957 about 5% of the students were women; now that's up to 30%, and about one-fifth of the MDs in the nation are women. We need the contribution of these women.

"As for house staff residents, there's about 1,000 house staff residents in Virginia at any given time, and I think we ought to make it easier for them to join the Society. I think they ought to be able to join directly, without going through the local societies. Then I think they ought to have their own meeting, with a scientific program, at our Annual Meeting, as some of the specialty societies do; we can help them set this up and get it going. And I think they ought to elect one of their peers to be a delegate to our House of Delegates, as their spokesman."

Dr. Wootton explained his second goal, increasing representation in the House of Delegates, like this:

"I believe we ought to give continued study to specialty society representation in the House of Delegates. The Society ought to be a single spokesman for the medical profession in the state. A lot of doctors attend only the meetings involving their specialties, so we don't have their input, and we should have that input."

On establishing a foundation, Goal No. 3, he had this to say: "It just makes good common sense for us to formulate a plan whereby a foundation could receive tax-deductible gifts. If a physician, or somebody else, wants to give a valuable library, an Oriental rug, some fine furniture to the Society, then he should be able to take a tax deduction for that."

He suggested an expanded news bureau, Goal No. 4, as taking these directions: "As I see it, at least tentatively, we would effect that expansion from Society headquarters here in Richmond. I see several things I'd like to come from that bureau: news releases, service to local components around the state, stimulation of auxiliary activities, an effort to plan and synchronize a speakers bureau, so that the physicians of Virginia become available to speak before organizations and groups throughout the state.

"The fact is that physicians are loved and respected as individuals and disparaged as a group . . . I think that with intelligent effort we can expand individual respect to the profession as a whole.

"One thing I really want to get going is a system whereby we can re-respond to detrimental or incorrect material in the news media, and in a hurry; I call it "increased response capability". As it is now, when we need to speak up and out, it may take a week or more to get it done, and by then, our response could get buried in the back of the paper. I'd like to see that response stepped up to less than 24 hours. We could set up a telephone network with myself and the Executive Committee and get out our official word in a hurry."

Dr. Wootton has been secretary of VaMPAC since 1977 and is correspondingly fervent about his fifth goal:

"Every member of the Society ought to be a member of VaMPAC also," he said firmly. "If doctors

want political influence they've got to help decide who the candidates will be and then help those candidates get elected. If there is a bad bill in the legislature, a telegram from a hometown doctor is going to have more influence on his delegate or senator than all the influence from the lobbyists at the Capitol—especially if the doctor helped the senator or delegate get elected."

His idea for a liaison with business and labor groups, Goal No. 6, he explained in this way:

"We've got to spread the word among business and labor leaders that what we are most interested in is quality medical care at reasonable cost. There are many things we need to tell them. For instance, do they know that statistics show that when a worker stays off the job for at least four months after an illness that he or she is not apt to return? Do they know that all too often an emergency room visit is both unnecessary and expensive? Just recently, as an example, one of my patients went to an emergency room on a Saturday afternoon instead of calling me and was charged for $222 worth of unnecessary lab tests that showed nothing not already known to me.

"The more the patient can be educated by us doctors, either directly or indirectly, the more he can take care of himself."

Toward his seventh goal, stronger rapport with the Auxiliary, Percy Wootton is uniquely qualified to lead, for as the husband of Jane Wootton, MD, he is himself a member of the Auxiliary and the first Auxilian to be MSV President.

Dr. Wootton, whose brush-cut hair makes him look even younger than his 48 years, is a man who likes to stay in control of things, and that explains his hair style. "It's full of cowlicks and goes off in all directions, so I keep it short."

The directions of his MSV presidency are well under control, that's clear. It ought to be a fine year for The Medical Society of Virginia.

Dr. Wootton Joins Four in Their Forties

At 48, Percy Wootton is one of the younger MSV presidents.

According to the record as this is written, there are 23 living past presidents of The Medical Society of Virginia. Four of them took office when they were in their 40s; eleven when they were in their 50s; and seven when they were in their 60s. Average age on taking office: 55 years.

Youngest was Dr. Harry Clark Bates, Jr., Arlington, who in 1958 was such a youthful looking President that he is remembered as being in his 30s; actually he was barely out of his third decade at 41 years.

Second youngest: Dr. Richard E. Palmer, Alexandria. When he became MSV President in 1964, he was 45, which left him plenty of time to continue onward and upward to the presidency of the American Medical Association.

Now 88 years of age, Dr. A. F. Robertson, Jr., Staunton, is the oldest living Medical Society of Virginia Past President and in 1939 was one of the youngest presidents at the age of 46.

To complete the four-in-their-40s, Dr. F. Ashton Carmines, Newport News, was 49 when he acceded to the MSV presidency in 1969.

At the other end of the age data, the top age registered at the time of the MSV presidency by this group of 22 past presidents is 67.

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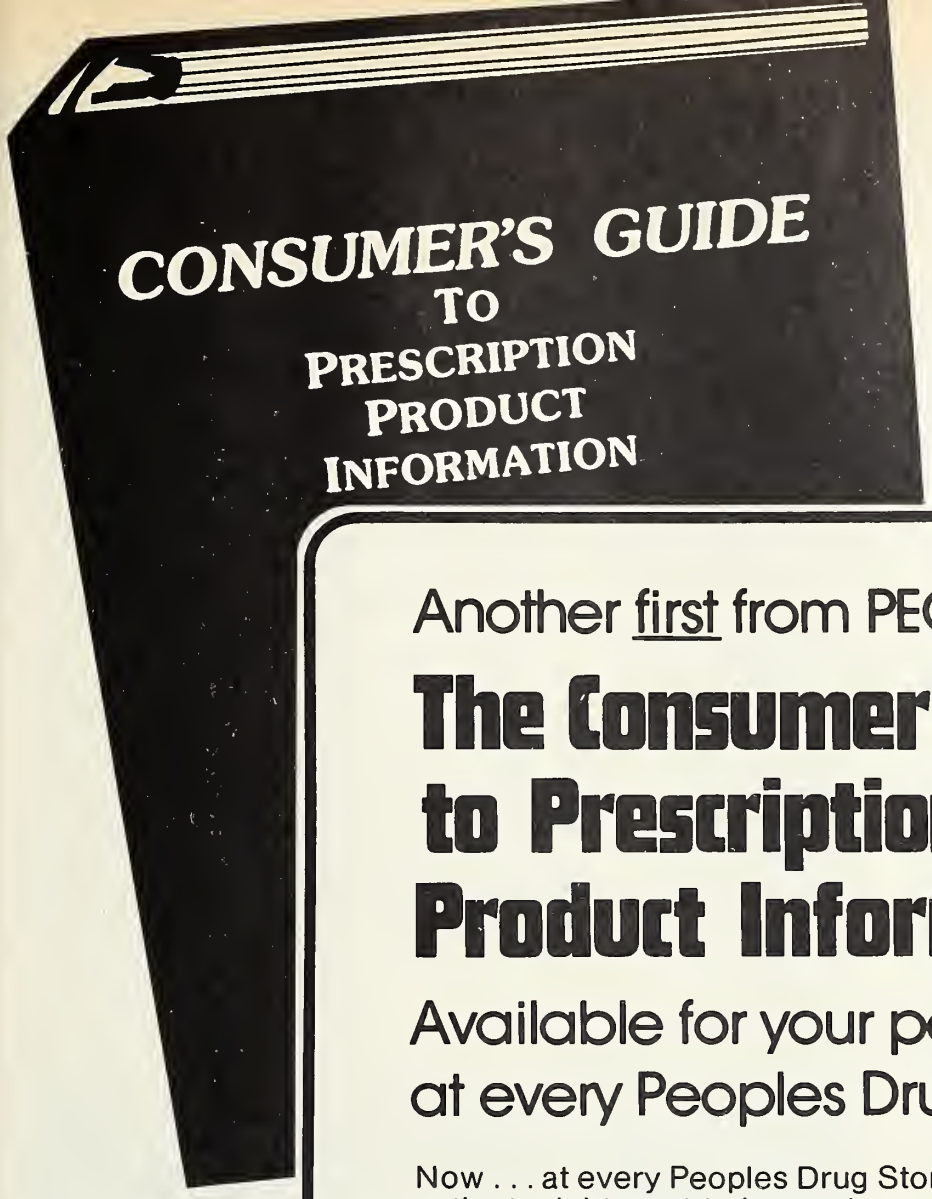
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WHO WHO'S

Dr. C. C. Hatfield of *Saltville* collects Japanese netsukes, Indian arrowheads, and American awards for community service. In the picture on this page his awards collection is in process of growing by yet another plaque, the Distinguished Citizen Award recently given to him by Virginia Highlands Community College.

Last month, at the Annual Meeting in Williamsburg, The Medical Society of Virginia contributed to the Hatfield awards collection by tapping him for its highest honor, the Physician Award for Community Service. It was an apt selection, for C. C. (for Cecil Curtis) Hatfield has been practicing both good citizenship and good medicine in and around Saltville for 44 years.

In medicine Dr. Hatfield is a general practitioner, but in community service he specializes in projects that aid and abet young people. The Virginia Highlands Community College award recognized his "exceptional service" to its students via his many years on the college's board of directors, capped by the board chairmanship.

For the Young Men's Christian Association, Dr. Hatfield long served on the state board of directors, then for four years held the highest YMCA post in Virginia, chairman of the executive committee. Gratefully, the YMCA awarded him membership in its select Century Club for his "generous support of the youth of Virginia".

Dr. Hatfield's active advocacy of Boy Scouting spans 30 years—and it, too, has yielded an award. For his faithful service as a scoutmaster, troop committeeman and troop committee chairman, the Boy Scouts of America gave him the Silver Beaver Award, highest honor the scouting program has to offer.

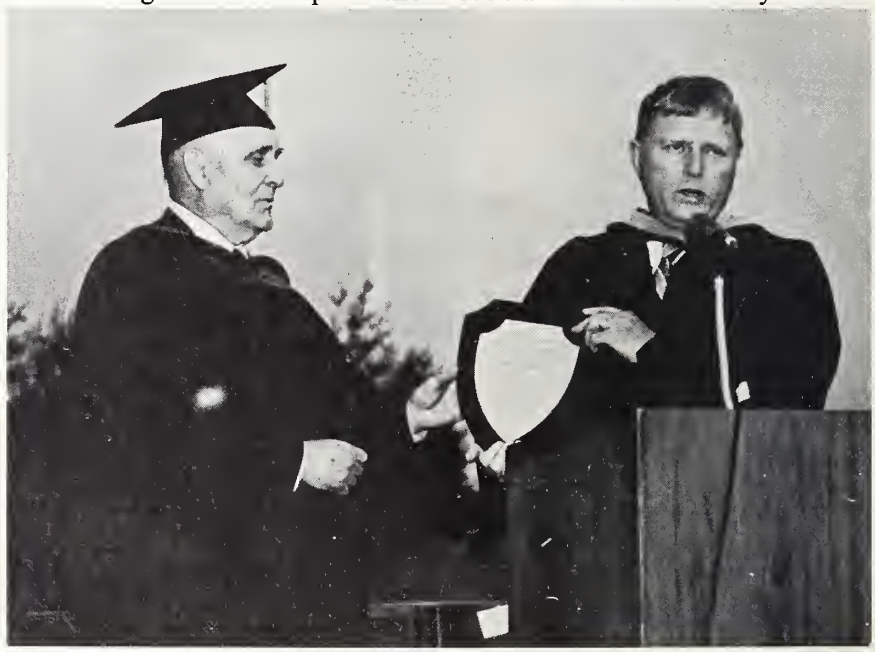
A charter member of the Saltville Kiwanis Club, Dr. Hatfield has been both its president and a Kiwanis district governor, but it was his work with children, as longtime chairman of the Kiwanis Crippled Children's Committee, that Kiwanians cited when they added their prestigious Golden Service Award to his collection. Similarly oriented to his profession is his long association with the Saltville Rescue Squad, which he founded 20 years ago and has served several times as president.

The Mt. Rogers Mental Health and Retardation Board, the Smyth County Welfare Board, the Easter Seal program, and the local Masonic lodge have also experienced Dr. Hatfield's energetic commitment. And the foundation for all is his lifelong membership in the United Methodist Church of McCready's Gap, near Saltville.

Dr. Hatfield was born in McCready's Gap, went to Roanoke College and then to the Medical College of Virginia. He has been chief of staff of Saltville's T. K. McKee Hospital and is a past president of both the Smyth County and Southwestern Medical Societies.

He is the 18th Medical Society of Virginia member to receive the Community Service Award, which was established in the early 1960s by E. Claiborne Robins, chairman of the board of the A. H. Robins Company, and has continued ever since under the sponsorship of the pharmaceutical firm. The roster to date of those chosen for the award appears on the opposite page.

What is a Japanese netsuke? It is a small toggle of wood or ivory used to fasten a purse to a kimono sash but transformed into a tiny work of



His awards add up to a collection: Dr. C. C. Hatfield (left) accepts a plaque from H. L. Littleton, Virginia Highlands Community College trustee.

art by intricate carving, usually taking the shape of an animal or person.

Dr. C. N. Van Horn, *Norfolk,* and **Dr. Gerald Bechamps,** *Winchester,* have been appointed to the State Board of Medicine by Governor Dalton. They fill the unexpired terms of two board members who resigned recently, **Dr. Clarence B. Trower,** *Norfolk,* and **Dr. Gene E. Swanson,** *Stephens City.*

Dr. William D. Mayer, *Norfolk,* has been appointed to the board of regents of the National Library of Medicine for a four-year term. The appointment was made by Patricia Harris, secretary of the Department of Health and Human Services.

Dr. John E. Kilfeather, *Fairfax,* pulmonary medicine specialist and past president of the Potomac Thoracic Society, is the new president of the American Lung Association of Northern Virginia.

Chosen president elect by the Roanoke Academy of Medicine at a recent meeting was **Dr. James E. Comer, Jr.** At the same time **Dr. John T. Walke** was elected vice president and **Dr. John P. Kaufmann** secretary-treasurer. **Dr. John Cole, Jr.,** was installed as the Academy's president for the coming year.

New president of Rockbridge County Medical Society is **Dr. Robert P. Irons, Jr.,** *Lexington.* Serving with him are **Dr. William E. Weddle,** vice president, and **Dr. James R. Busch,** secretary.

And in *Portsmouth,* **Dr. Abelardo A. Ruiz** has assumed the presidency of the Portsmouth Academy of Medicine. Serving with him as vice president is **Dr. Ronald I. Dozoretz** and as secretary, **Dr. H. Dale Sponaugle.**

MSV Physician Award for Community Service, 1963-1980

1963: the late **John Wyatt Davis, Jr., MD,** *Lynchburg*
1964: **Thomas H. Jennings, MD,** *Bedford*
1965: the late **Frank E. Handy, MD,** *Appalachia*
1966: **George B. Setzler, MD,** *Pennington Gap*
1967: the late **Edward Turner Ames,** MD, *Montross*
1968: the late **James B. Hagood, MD,** *Clover*
1969: **Malcolm H. Harris, MD,** *West Point*
1970: **Arthur L. Van Name, Jr., MD,** *Urbanna*
1971: the late **W. Nash Thompson, MD,** *Stuart*
1972: the late **W. Linwood Ball, MD,** *Richmond*
1973: **Fletcher J. Wright, Jr., MD,** *Petersburg*
1974: **William M. Eagles, MD,** *Richmond*
1975: **Carl E. Stark, MD,** *Wytheville*
1976: **Richard E. Palmer, MD,** *Alexandria*
1977: **Raymond S. Brown, MD,** *Gloucester*
1978: **Harry J. Warthen, Jr., MD,** *Richmond*
1979: **William J. Hagood, MD,** *Clover*
1980: **C. C. Hatfield, MD,** *Saltville*

Dr. Richard W. Crossen, *Richmond,* was one of 11 finalists in Good Housekeeping magazine's Family Doctor of the Year Award for 1980. Particularly praised was his volunteer work as physician for the football team of Richmond's Hermitage High School, which several years ago established the Richard Crossen Award for presentation to the athlete who annually exemplifies self-sacrifice, unselfishness and dedication, attributes Dr. Crossen himself has demonstrated in his service to the school.

Picked up by *Medical Economics* magazine for its national readership was a report in these columns of VIRGINIA MEDICAL's October 1979 issue of how four Virginia physicians have met CME needs. "Heros" of the story are these Northern Neck family practitioners: **Dr. J. Motley Booker,** *Lottsburg*; his late brother, **Dr. C. Leonard Booker,** who died last May; **Dr. Melvin B. Lamberth, Jr.,** *Kilmarnock*; and **Dr. Norman R. Tingle,** *Lively.* For 25 years they comprised the BBLT Audio-Digest Club, meeting once a month to listen to tapes that kept them up to date. The *Medical Economics* article emphasizes Dr. Tingle's recommendation of the system to all doctors who practice in similarly isolated areas.

The University of Virginia Medical Center and the Lions of Virginia have joined to establish Virginia's first Hearing Foundation and Temporal Bone Bank. The bank will serve as a repository for middle ear structures donated for transplant and the foundation will be a research and teaching effort. Both will be in the university's Department of Otolaryngology, of which **Dr. Robert W. Cantrell** is chairman.

Dr. Charles E. Horton has been named assistant dean for continuing medical education at Eastern Virginia Medical School in Norfolk. **Dr. James H. Carraway** succeeds him as chairman of the school's Department of Plastic Surgery.

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Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.
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Alexandria Medical Society

Manfreds Munters, MD, Orthopedic Surgery, 1300 Lafayette Drive, Alexandria VA 22308

Jeffrey L. Speller, MD, Psychiatry, 416 South Fairfax, Alexandria VA 22314

Arlington County Medical Society

Gordon Lee Avery, MD, Orthopedic Surgery, 1029 North Stuart Street, Arlington VA 22201

Neal D. Barnard, MD, Psychiatry, 1810 North Wayne Street, Arlington VA 22201

Henry Tucker Dalton, MD, Ophthalmology, 3801 North Fairfax Drive, Arlington VA 22203

Barbara R. Hoar, MD, Psychiatry, 1925 North Lynn Street, Arlington VA 22209

Danville-Pittsylvania Academy of Medicine

Arthur W. Whitehurst, MD, Urology, 416 Maple Lane, Danville VA 24541

Lynchburg Academy of Medicine

Martha F. Donegan, MD, Anesthesiology, 1900 Canterbury Circle, Lynchburg VA 24503

Lawrence D. Larkin, MD, Diagnostic Radiology, Box 2456, Lynchburg VA 24501

David William Leffke, MD, Urology, 2542 Langhorne Road, Lynchburg VA 24501

Della Christine Williams, MD, Neurology, 1933 Thomson Drive, Lynchburg VA 24501

Norfolk Academy of Medicine

Amiele H. Barakey, MD, General Surgery, 200 Medical Parkway, Chesapeake VA 23320

Gary Michael Hecht, MD, General Practice, 1125 Azalea Garden Road, Norfolk VA 23502

Northern Virginia Medical Society

Nirmal Kanal, MD, Ophthalmology, 12431 Wendell Holmes Road, Herndon VA 22071

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MEETINGS ABOUT MEDICINE

January 12-15
Alton D. Brashear Postgraduate Course in Head and Neck Anatomy (Medical College of Virginia), *Richmond.* 40 hrs. credit. Fee: $250. Hugo R. Seibel, Box 709, MCV Station, Richmond VA 23298, (804) 786-9530.

January 12-16
Twelfth Annual Cardiovascular Conference (American College of Cardiology), *Snowmass, Colorado.* 18½ Cat. I credits. Fee: members, $225; non-members, $285. Registration Secretary, ACC, 9111 Old Georgetown Road, Bethesda MD 20014.

January 12-17
Emergency Medical Service Systems and Trauma Center Development (University of Maryland) *St. Thomas, Virgin Islands.* Betty B. Saar, 10 South Pine Street, Baltimore MD 21201, (301) 528-3956.

January 15-17
Critical Care Medicine Symposium (University of Virginia), *Charlottesville.* University of Virginia Medical Center, Box 368, Charlottesville VA 22908, (804) 924-5318.

January 16-17
Tennis Medicine Symposium (Georgetown University), coordinated with finals of Volvo Grand Prix, *New York City.* Robert P. Nirschl, MD, Georgetown University Medical Center, 3800 Reservoir Road, Washington DC 20007.

January 22-23
John M. Nokes Lectureship in Obstetrics and Gynecology (University of Virginia), *Charlottesville.* University of Virginia Medical Center, Box 368, Charlottesville VA 22908, (804) 924-5318.

January 22-23-24
Annual Meeting of the Neurosurgical Society of the Virginias *Hot Springs, Virginia.* Albert S. Loew, Jr., 3500 Queen Street, Portsmouth VA 23707.

January 24-26
American Medical Association's Winter Scientific Meeting, Hilton Hotel, *Atlanta.* AMA Dept. of Meeting Services, 535 N. Dearborn St., Chicago IL 60610.

January 26-29
Pulmonary Disease 1981: Current Concepts for the Clinician (Boston University), Village at Smuggler's Notch, *Jeffersonville, Vermont.* 19 hrs. Cat. 1. Fee: $240. Arthur S. Robins, MD, Pulmonary Section, Boston VA Medical Center, Boston MA 02130, (617-232-9500, Ext. 3348.

January 30
Movement Disorders (University of Maryland), *Baltimore.* Betty B. Saar, 10 South Pine Street, Baltimore MD 21201, (301) 528-3956.

January 31-February 7
Infectious Diseases in Clinical Practice (University of California at San Francisco), *Park City, Utah.* 20 hrs. Cat.1. Fee: $250. John Mills, MD, University of California, 1308 Third Ave., San Francisco CA 94143, (415) 666-2483.

February 5-7
Fiberoptic Bronchoscopy: A Workshop (University of Kentucky), *Lexington, Kentucky.* Frank R. Lemon, MD, University of Kentucky College of Medicine, Lexington KY 40536, (606) 233-5161.

February 15-20
12th Family Medicine Review: Session I (University of Kentucky), *Lexington, Kentucky.* See preceding entry.

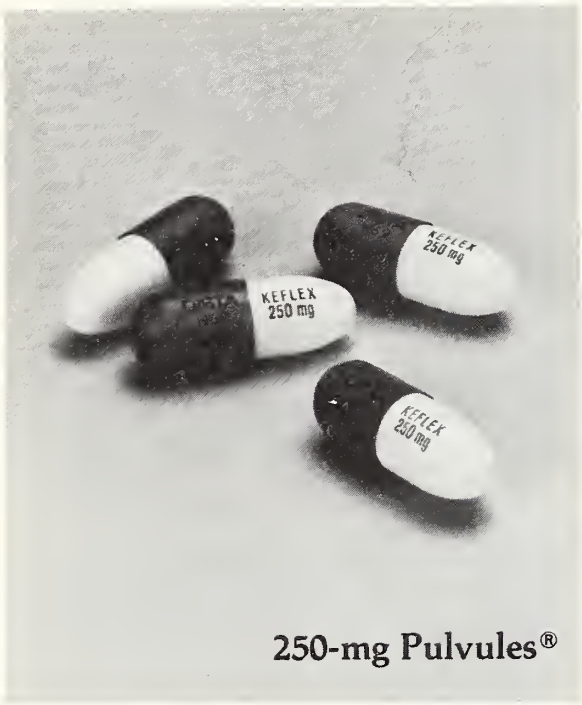
February 22-25
Southeast Surgical Congress Conference, *New Orleans.* A. H. Lehon, MD, 315 Boulevard, NE, Suite 500, Atlanta GA 30312.

February 27
School Health III (Departments of Pediatrics and CME, East Tennessee State University), *Johnson City, Tennessee.* 7 hrs. Cat. 1. Fee: $40. Shirley Bogart, (615) 928-6426, Ext. 204.

February 27-March 1
Annual Meeting, Virginia Chapter, American Academy of Pediatrics, and the Virginia Pediatric Society, Conference Center, *Williamsburg.* Joseph R. Zanga, MD, Box 514, MCV Station, Richmond VA 23298, (804) 786-0769.

February 28-March 6
Annual Postgraduate Course in Internal Medicine (University of Miami), Sheraton Bal Harbor Hotel, *Miami Beach.* Dr. Jose S. Bocles, Dept. of Medicine, R-760, University of Miami, PO Box 016760, Miami FL 33101.

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LETTERS TO THE EDITOR

Call for Diabetic Patients to Study Sexual Dysfunction

The Diabetes Research & Training Center of the University of Virginia, under the directorship of Dr. Joseph Larner, has recently funded local research investigating the effect of insulin-dependent diabetes on sexual functioning in adult females. Questionnaire studies have suggested that approximately 35% of diabetic females report sexual dysfunctions, yet no studies to date have provided physiological measurement of sexual dysfunctioning in diabetic females. Conversely, documentation of sexual dysfunctioning in diabetic males has existed for years, indicating that from 35% to 50% encounter this complication of the disease. Certainly, research regarding sexual functioning in diabetic females seems not only warranted, but overdue.

In preparation for this important research, we are soliciting aid from all Virginia physicians in obtaining potential subjects. Specifically, we are selecting females with insulin-dependent diabetes between the ages of 20 and 45, who are premenopausal, do not take the birth control pill, do not take a large number of other medications, and do not have serious cardiovascular problems.

Individuals selected for the study will receive a physical examination by William S. Evans, MD, clinical assistant professor, Division of Endocrinology and Metabolism. Additionally, nerve conduction and peripheral vascular examinations will be performed by University of Virginia Hospital technicians and evaluated by physicians in those respective departments. Participants will complete two sexual functioning inventories and spend two consecutive nights in the Sleep and Dream Laboratory located at the Blue Ridge Hospital Division of the University of Virginia Medical Center.

Nocturnal monitoring of sexual functioning concomitant with rapid-eye-movement (REM) sleep has been employed as a research procedure for differentiating organic from psychogenic sexual dysfunction in diabetic males and thus will be the paradigm for investigating sexual dysfunction in diabetic females. Electroencephalography, electrooculography, and electromyography will be employed to record sleep stages, while physiological measurement of REM-related sexual responses will be obtained via a vaginal photoplethysmograph.

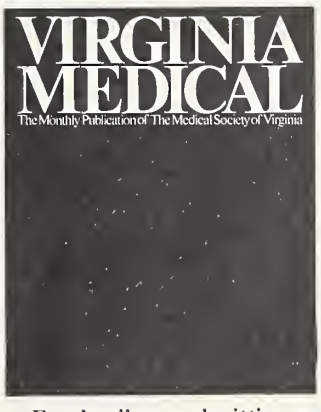
Patients participating in the research will thus obtain many costly diagnostic examinations free of charge, while additionally receiving $20.00 for participation. Referring physicians will receive consult reports for their patient's medical records.

We would like to stress that patients referred for the study will receive a full explanation of the procedures involved. They will be asked to read and sign an informed consent document outlining the study in writing and providing for discontinuance at the patient's option without prejudice. All research procedures have been approved by the Human Investigations Committee of the University of Virginia.

If a physician knows of a patient appropriate for the study, particularly one with complaints of sexual dysfunctioning, we urge that the opportunity to participate in the study be introduced to that patient. Referrals can be made to either of the persons below.

The help of Virginia physicians in obtaining participants is essential to undertaking this important research and will be greatly appreciated.

William S. Evans, MD
Robert L. Van de Castle, PhD
University of Virginia Hospital
Charlottesville VA 22908



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VIRGINIA
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DECEMBER 1980

The 133rd Convening: Affairs of State and Science



New officers of The Medical Society of Virginia: front row, left to right, Dr. Harold L. Williams, Newport News, First Vice President; Dr. Percy Wootton, Richmond, President; Dr. H. C. Alexander, III, Roanoke, President Elect; back row, left to right, Dr. Richard L. Fields, Fairfax, Speaker of the House; Dr. J. R. Holsinger, Luray, Third Vice President; Dr. William H. Barney, Lynchburg, Vice Speaker; Dr. Anthony J. Munoz, Farmville, Second Vice President.

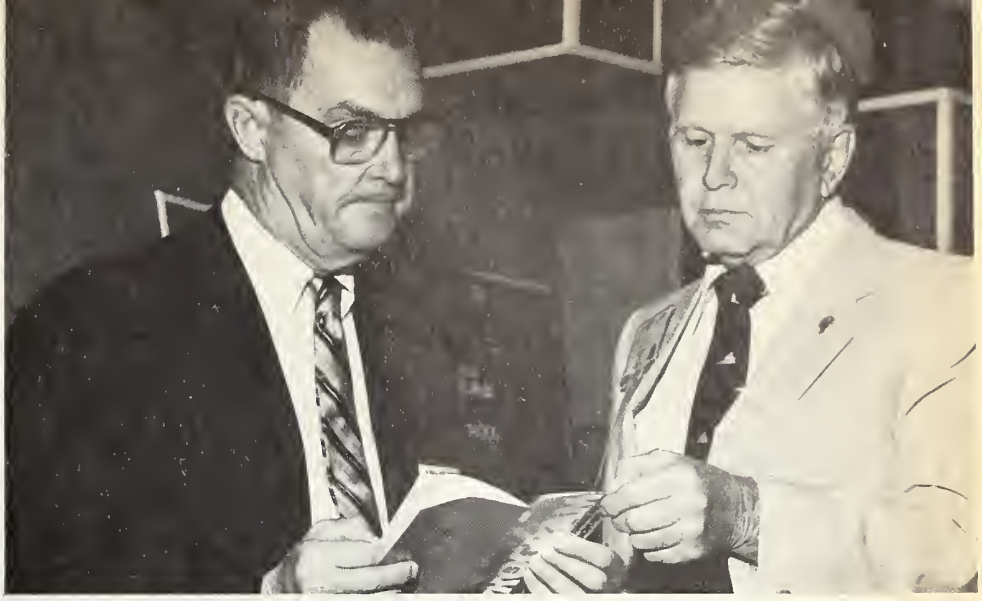
THE cavaliers of old who sought out Middle Peninsula some 300 years ago were a far cry from the modern-day cavaliers who descended on Williamsburg last month. Those earlier visitors arrived largely by foot, bearing "a well-fixed musquett and fuzee, a good pistol, a sharp simitar, and tomahawk" and seeking safety and sustenance. We arrived by some speedier contrivance, bore the accoutrements of the doctor, student, and sport, and sought luxury and learning.

Williamsburg is such an elegant retreat now that it is hard to reckon that it ever harbored privation and want. In the vernacular, we lived it up. Groaning boards and soft beds provided every creature comfort. History and culture abounded. Williamsburg's facilities conspired delightfully to further the serious purpose that brought us together, ie., renewing, refreshing, and advancing our medical knowledge, and setting about the business of our Society.

Centrally important, of course, were Dr. Nipe's eloquent presidential address, which you will find by turning to page 845, and the affairs of state as carried out with wisdom and dispatch by the Council, the reference committees, and the House of Delegates. The House elevated Dr. Wootton to the presidency and chose Dr. Alexander as President Elect; then these doughty delegates made photographic history by standing shoulder to shoulder for the panorama on pages 840-842.

Dr. Richard Lindsay and his able committee provided a scientific program of real merit and an appropriate mix of topics. An especially rewarding feature was the original research presented by residents of Virginia's three medical schools.

So exceptional in quality were the scientific exhibits that the judges, after protracted deliberations, conferred seven awards rather than the customary three, and then allowed

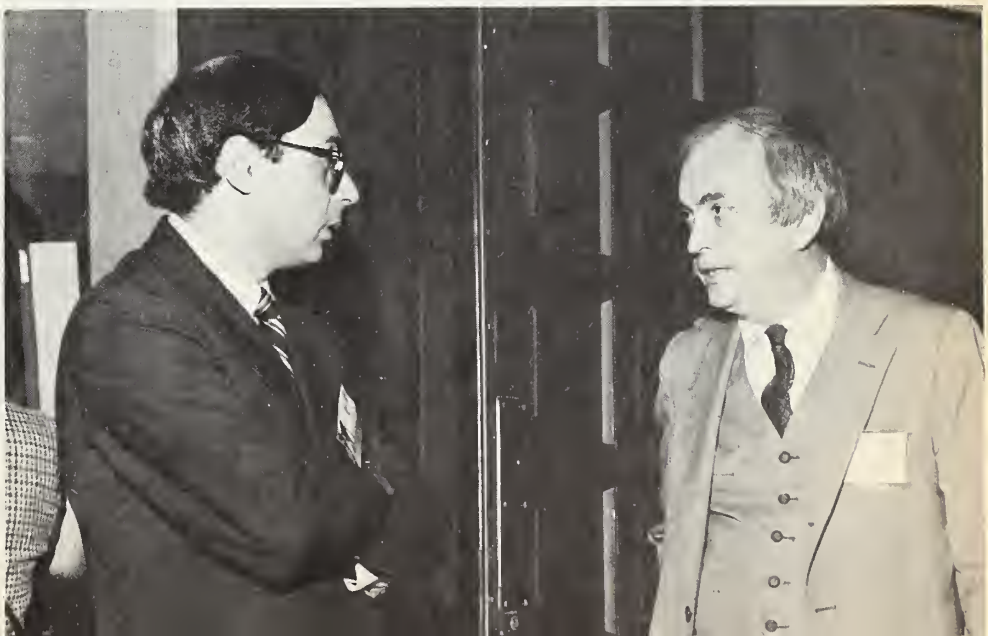


▲ Dr. Joseph O. Romness, Arlington (left), and Dr. Arthur A. Kirk, Portsmouth



▲ Dr. Joseph M. Straughan, Wise, (left) and Dr. Reuben Knopf, Roanoke

▼ Dr. Michael E. Johns, Charlottesville (left), and Dr. I. K. Cohen, Richmond



as how every one of the 19 exhibits should have a prize.

The members of the Auxiliary were equally busy enjoying a full and fine program under the leadership of their president, Mrs. Charles Smith.

Lest those who were not there labor under the misapprehension that that was all, be assured that there were breakfasts, luncheons, dinners, parties, dances, tournaments, discussions of medical portent with colleagues, conversations of nostalgic flavor with old friends—all the jovial things that make for fond memories. Accolades are due the Newport News Medical Society, our host, and all others who made this 133rd meeting such a memorable one. W. T. T., Jr., MD



All photographs in this section by Thomas L. Williams.

▲ Four scientific exhibits tied for third place, and in the photograph above Dr. George M. Nipe, who as President led the 1980 meeting, is handing a yellow ribbon to Dr. Marvin Goldberg, Norfolk, who with Dr. Duane Wombolt put together the exhibit titled, "Intermittent Home Peritoneal Dialysis." It was the only yellow ribbon on hand, but three more were to be ordered for these other third place winners: Dr. George W. Vetrovec and Dr. Michael J. Cowley, Richmond, for their "New Invasive Techniques for the Diagnosis and Treatment of Coronary Artery Disease"; Dr. I. K. Cohen and Dr. B. J. McCoy, Richmond, whose presentation was titled "Biology and Treatment of Keloid, 1980": and the South-Eastern Organ Procurement Foundation for the display setting forth its purpose and programs.

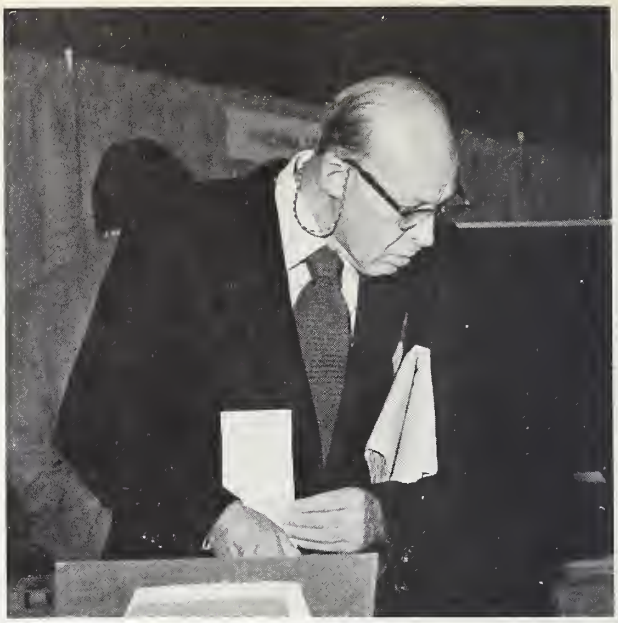
There was a crowd of scientific exhibits at the 133rd Annual Meeting, and on these pages are photographs of some that won awards of merit.

◀ Judges bestowed the blue ribbon on the exhibit at left, citing its usefulness, its scope, and the diligence with which it was attended by Dr. George Szele of Manassas, who is in the center of the picture. Titled "Changing Concepts in the Management of Acute Respiratory Failure", the presentation was the joint work of Dr. Szele, Dr. Leticia Q. Del Pilar, Dr. Rekha R. Lawande, and Technician Sam Yoder. Shown visiting the exhibit is Dr. John R. Tietjen, Petersburg.



▼ To the exhibit shown below, "Post Mastectomy Breast Reconstruction", went the red ribbon for second place. "A beautiful exhibit", read the judges' tally sheet. It was presented by Dr. Patrick Maxwell, Dr. Charles R. Cardany, and Dr. John B. McCraw, all of Norfolk. Dr. Cardany, who was the exhibit's principal attendant, is pictured explaining a point to Dr. Terry L. Whipple, Richmond.

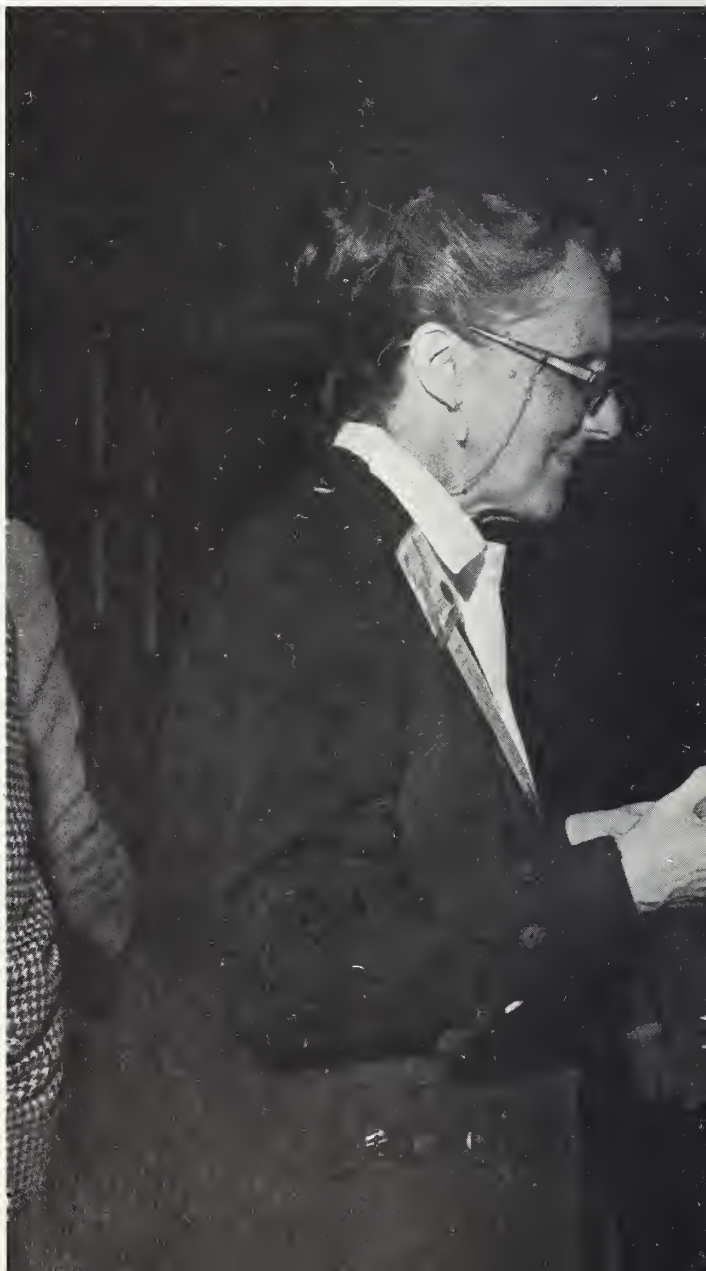




Dr. Frederick W. Rook, Falls Church



Dr. William D. Liddle, Jr., Fredericksburg



In the photograph to the right, Dr. Barbara A. Mella, Fairfax, receives credentials for the House of Delegates' second session from Dr. C. Barrie Cook, Fairfax (center), and Dr. Robert M. Allen, Falls Church.



Dr. E. F. Barrick, Vienna



Dr. Girard V. Thompson, Sr., Chatham



VIRGINIA MEDICAL's January 1981 issue will carry the minutes of all proceedings at the 1980 Annual Meeting in Williamsburg, plus more photographs. Meantime, turn this page for The Big Picture.



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THE [illegible] SOCIETY OF VIRGINIA AT THE ANNUAL MEETING, NOVEMBER 8, 1980, WILLIAMSBURG

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"Unparalleled in my life": The President Reviews His Year

George M. Nipe, MD, *Harrisonburg, Virginia*

"The sheriff has been such a frequent visitor to Medical Society of Virginia headquarters this year that my great and good friend, Mr. Robert I. Howard, has lost every hair on his head and I am resorting to Grecian Formula to try to preserve some semblance of youth."

AT this time a year ago I had just left the hospital as a discharged patient, and also I was accepting the honor of this office which you had accorded me.

After the formalities were over, my predecessor and very good friend, Charlie Davis, drew me aside for some confidential conversation. His first and most reassuring remarks were, "Old Buddy, I have observed over the past years that the presidents in the odd years have had calm and relatively worry-free administrations. The Medical Society of Virginia's problems have been concentrated in the even years. You know of course, that your year is 1980."

This year the sheriff has become such a frequent visitor to Society headquarters that Mrs. Margaret Brown has kept his personal coffee cup clean and ready in the pantry. Our legal problems have become so horrendous that my great and good friend, Mr. Robert I. Howard, has lost every hair on his head—and I am resorting to Grecian Formula to try to preserve some semblance of youth.

Presented as the Presidential Address before the House of Delegates at the Annual Meeting of The Medical Society of Virginia in Williamsburg on November 6, 1980.

We have had to defend ourselves in federal court against two antitrust suits, and Council advises that we barely avoided being made a party to a third major antitrust suit. This type of litigation is protracted, and it is serious, very serious in its implications; it is also extremely costly to defend, and the potential liability cannot be protected against by insurance. Many people have had to give hours and days of their time, and the Society has spent great sums of money for legal services.

In our last two trials we have received favorable verdicts. The verdict in the last trial has been appealed, however, which means that we go to appellate court and may have to go back to trial again. The meter in our attorney's office keeps ticking.

We are now going to court again, this time charged with defamation of character. Again we feel that the charge is without merit, again we must ask our attorneys to defend us.

Ten years ago this Society did not anticipate that any of these situations would even be a concern for us. This year about one-fifth of our budget has been devoted to legal expenses.

As one views the present day philosophy of the courts it seems inevitable that this organization will

DELEGATES to the House of The Medical Society of Virginia stand shoulder to shoulder in the panoramic photograph to the left. The occasion: the Annual Meeting 1980. The place: a patio of the Colonial Williamsburg Conference Center, to which these 209 delegates had recessed after electing new MSV officers.

In center front locations can be found those new officers (they appear again on page 834 and are there identified), flanked by two who were relinquishing office: Dr. George M. Nipe, who as President led with characteristic buoyancy this 133rd Annual Meeting, and Dr. K. K. Wallace, Jr., Speaker of this House, whose careful planning made this picture possible.

Published here following are the names of all who presented their credentials for this session of the House. How many names and faces can you put together? There is, be warned, a hazard to the search: The Editors count (and recount) 213 persons in this photograph. Yet the credential cards collected before the second session seem to total 210, of which four were presented by medical students. In the coming months the Editors hope to identify all those in this photograph; in the process the mystery of the three missing cards may be solved.

This picture echoes a similar panoramic photograph taken at the 1911 Annual Meeting, almost seven decades ago, and published to considerable comment in VIRGINIA MEDICAL's October issue. Several readers have written to identify relatives in that picture; their letters will be published in an early issue. Many others have communicated their pride and pleasure in the sight of that crowd of earlier Virginia doctors. So, too, in decades to come, this 1980 portrait will be cherished.

But for now, just look at all those terrific Virginia doctors!

A. G.

THESE PRESENTED CREDENTIALS TO ATTEND THE SECOND SESSION OF THE MEDICAL SOCIETY OF VIRGINIA'S HOUSE OF DELEGATES, NOVEMBER 8, 1980, WILLIAMSBURG.

ROBERT A. ABERNATHY, MD
M. AORALES, MD
H. C. ALEXANDER, III, MD
EOWARO G. ALLEN, MD
ROBERT M. ALLEN, MD
HILTON R. ALMOND, MD
ROBERT H. ANDERSON, MD
THEODORE C. ANDREW, MD
CHARLES C. ASHBY, MD
WILLIAM H. BARNEY, MD
RICHARD N. BAYLOR, MD
WYATT S. BEAZLEY, III, MD
ROBERT M. BEATLEY, MD
SAMUEL M. BELINSKY, MD
BRAOLEY D. BERRY, MD
H. ALAN BIGLEY, JR., MD
WILLIAM B. BISHOP, MD
LEON I. BLOCK, MD
JOHN BONIFACE, JR., MD
O. RILEY BOONE, MD
DAVIO M. BRILLHART, MD
LYNN BROAOFIELO
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NICHOLAS G. COLLETTI, MD
C. BARRIE COOK, MD
C. W. COPPEDGE, MD
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J. F. CROSBY, MD
ALEXANDER D. CROSETT, JR., MD
JOSEPH L. CROSIER, MD
CHARLES H. CROWDER, JR., MD
CEE A. DAVIS
RONALD K. DAVIS, MD
ROBERT DEUELL
LEON M. DIXON, MD
JOHN L. DOBSON, MD
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HASKINS FERRELL, JR., MD
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GERALD J. FISHER, MD
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HARRY C. KUYKENOALL, MD
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continue to find itself embroiled in more legal actions. The people of our time are no longer willing to settle their differences face to face or by the ethical steps of appeal provided by their own organizations. Any and all differences are forced into the burgeoning stream of litigation that is inundating the courts of this land.

This Society has been most fortunate in recent years in retaining the services of an extremely capable attorney in Richmond. We find it very prudent to have him clear any sensitive communications and advise us with many of our committee deliberations. We may not be less vulnerable but we do feel safer.

Our Vanguard program has struggled through its formative years to gain credibility. This seems to have been accomplished to such an extent that we have interested other states in forming similar programs. At the December 1979 meeting of the AMA we interested many delegates in this idea.

During the early years of Vanguard a great deal of support and definition of direction of effort has been furnished by outside consultants. This need for professional help in the shakedown phase has made this program another large item in the budget of the Society.

The state Vanguard Committee has taken upon itself the job of trying to oversee all the areas of the state affected by local HSA planners. This task is too much for the Committee to cope with without help. The time has come when we, the physicians of Virginia, must shoulder the burden of Vanguard. The local Vanguard Committees of county medical so cieties and our large academies now must move to provide the primary job of research and response. Government has decreed that HSAs be run by local people to address local problems. The physicians in each locality should talk to their fellow citizens about problems of local concern.

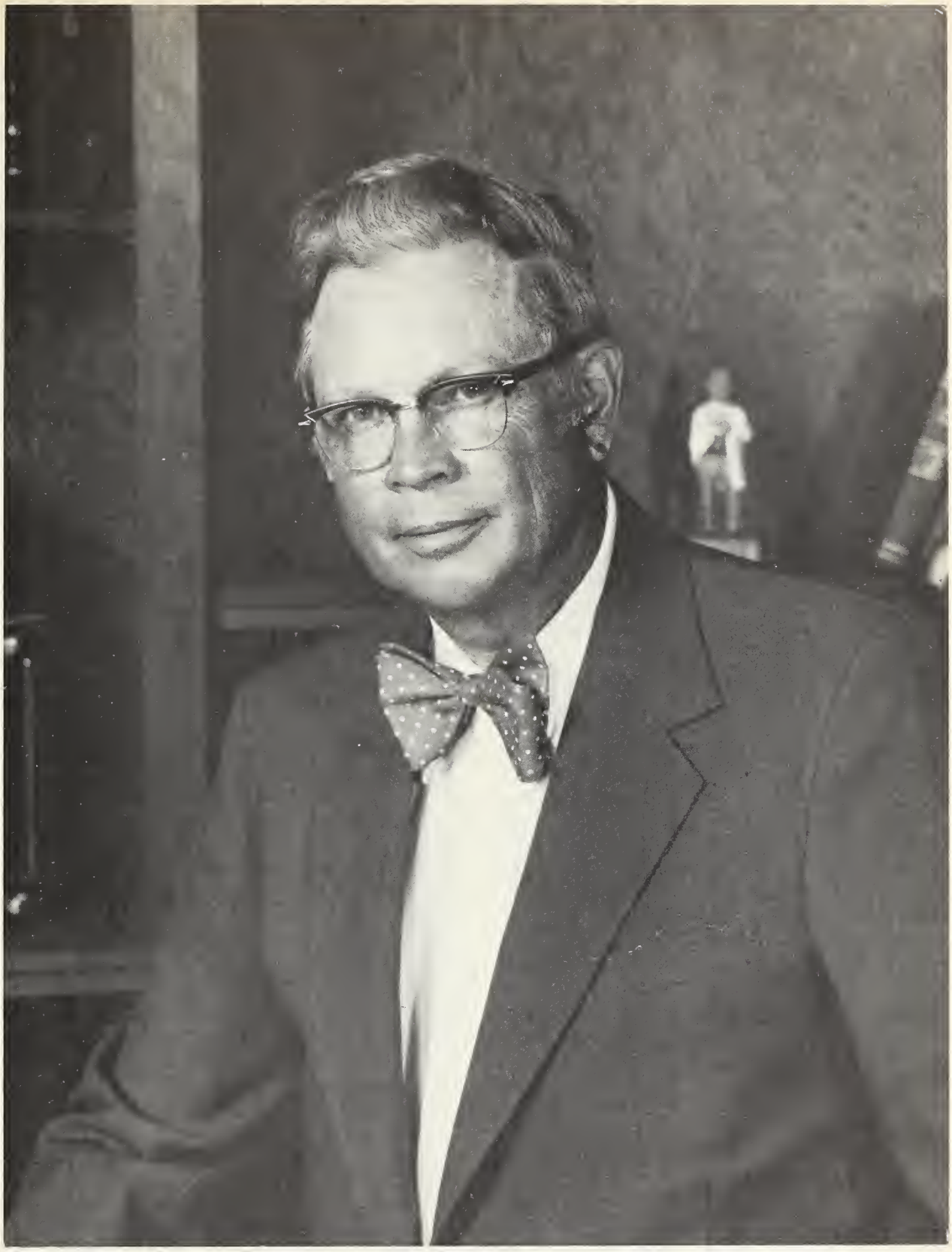
The state Vanguard Committee with its full-time executive secretary are available if and when needed to address solutions to particularly difficult situations or problems. With full-time scrutiny of the *Federal Register* and the aid of the available AMA legislative bulletins, local committees can be kept aware of federal demands that may color deliberations of their own HSA boards.

In this program there may be times when special expertise is needed or strictures of time may cause The Medical Society of Virginia's Committee to call upon special consultants outside of the Society to lend aid in a specific area of concern. These situations should become much less common as our physicians develop the skills needed to deal with political problems.

VaMPAC deserves the complete support of every member of this Society. During my visits to some of our neighboring medical socities, I found them much less supportive of their state PACs. Physicians have looked upon politics and any personal involvement with aversion. The hard fact is that we must organize ourselves so that we present a unified front in the political arena. We have the greatest product in America to purvey—the world's best and most accessible medical care. We know and can prove that government's entry into this field has begun to limit availability and vastly increase its cost without improving its quality. Politicians have yielded to the temptation of promising more medical care than can be delivered and paid for. Now that the politicians have committed this sin of commission they are attempting to force physicians to do penance for them by accepting totally inadequate fees for work promised by these same politicians. We *must* seek out and support those people who truly have the well-being of all our people at heart. VaMPAC can and will coordinate these campaigns. But, remember, it is legislated that our PAC is the organization with which to enter the political arena and our Society is restricted in the amount and type of monetary contribution that it can provide to VaMPAC. The IRS in the past several years has made that very clear during audits conducted at our headquarters. We cannot chance the loss of our tax-exempt status. It is most important that everyone join and support VaMPAC with its dues. The oldest and most hackneyed excuse is, "But they have supported a candidate that I don't like." It may salve your conscience, but recognize it for what it is, just a poor excuse to avoid contributing a very small sum of money to an effort that is defending you and making your comfortable world possible. VaMPAC *must* support itself—and we, the physicians of Virginia must be VaMPAC. Our efforts and our contributions are its life blood.

The problems of finance have been explored most carefully. The extraordinary expenses incurred in our legal defenses, the founding of Vanguard and VaMPAC, the increased expenses of our other committees and staff as they respond to inflationary pressures, all have made it necessary for the Finance Committee to meet in several unusual sessions before the regular once-a-year meeting that has been sufficient in the past. Please think of your dues from a different viewpoint; one day with your family at your favorite resort will cost just about as much as your dues for *one* year in your state medical society. Surely our profession and ability to fight for our patients and our freedom is worth this small sum.

This House requested in its last session that the



GEORGE M. NIPE, MD, PRESIDENT, 1979-1980, THE MEDICAL SOCIETY OF VIRGINIA

question of specialty representation in the House of Delegates of The Medical Society of Virginia be studied. An ad hoc committee was appointed by the president to study this proposed program and report its conclusions after appropriate study and consideration.

I have in hand the excellent study and the conclusion reached by this committee, which was chaired by our Past President, Dr. William Hagood. This committee does not recommend expanding the membership of the House of Delegates by adding representatives from the specialty societies of Virginia at this time, and after studying the material submitted I agree with this conclusion and recommend that the House accept this position.

I extend my thanks to this committee for the penetrating analysis it brought to this problem. I further ask that the committee continue to monitor this situation and report to you as indicated.

Some months ago I was approached by the administrator of my hospital with a request that The Medical Society of Virginia support another effort to have the Appropriateness Review program repealed. The points he made to me are valid and worth another charge up the hill. The members of the boards of trustees of local hospitals are generally leaders of thought and finance in their community; under the thumb of Appropriateness Review these people will find themselves in the position of having no real authority to plan, with security, for the future of their hospital, for there would always be the possibility of their plans being overturned in the near future. Their only certainty would be their legal responsibility for failure. The economics of these hospitals will be seriously affected. If a hospital proposes a new service and seeks funds in the financial markets, I fear they will soon find themselves confronted by bankers who will also know the potential problems that Appropriateness Review presents. If large sums of money are to be obtained for a new service that can be arbitrarily terminated after a few years, then these hardheaded business men will also realize that a service terminated can no longer pay off the loan obtained to initiate that service. No money may be available to allow hospitals to expand their services to their communities or, if available, it would be at an exorbitant rate of interest.

These proposals have been presented to the Virginia Chamber of Commerce and to the Virginia Hospital Association. These people now believe that medicine's problems are also the problems of all the people. This man's crusade gathers momentum, for with the Chamber of Commerce and the Hospital Association (and their boards of trustees), the leaders of our communities and state are involved. Can we not join their drive to eliminate one of the feds' obnoxious programs to control medicine? With the combined efforts of the Virginia Chamber of Commerce, the Virginia Hospital Association and The Medical Society of Virginia, we can go to our national organizations for the clout necessary to persuade Congress to abort this potential monstrosity. One success can breed others.

This year we have again seen a resumption of the alarming increase in malpractive claims and size of awards which bids fair to outstrip the problems of 1973 and 1974. The carrier that insures the majority of Virginia physicians finds it necessary to file for an increase in premiums. During visits to our neighboring states I have found that their experience has been as bad as ours and in some instances worse. We are still in an excellent position as to availability of insurance, quality of coverage and reasonableness of premiums. We are in the process of negotiating with our carrier a novel approach to the procedure of setting premiums. Your Insurance Committee and Society officers have retained professional advice for negotiations with our primary carrier. We hope we will be able to reach an agreement that will be reasonable and fair for sometime into the future.

Council has decided that it is fair to rotate the annual meeting from East to West in alternate years so that members may find themselves relatively near a meeting site at least every other year. Next year, as you know, we convene the meeting in Norfolk. Thereafter we will probably use Williamsburg and Hot Springs for the next several years.

Our choice of convention sites is growing progressively smaller as we increase our needs for more and more space. This year, at your Speaker's request, we have a fourth reference committee, so that we can more easily handle the increase in deliberations brought to this House.

Next year we are also proposing a change in the format of the annual meeting. The specialty societies have asked for time on the program this year. Unhappily, we had to inform them of the limitation of time and space that applied to the meeting. It has been one of our more unhappy tasks to have our staff search and search without success for areas that we could provide for our members.

I make this proposal now. As soon as practical, the following new format should be implemented. Move the meeting of the Finance Committee to early afternoon on Wednesday, to be followed by the meeting of Council. Convene the first meeting of the House of Delegates on Wednesday after dinner. Thursday morning the reference committees would meet. This

would enable our staff to write the committee reports and get them duplicated and ready for distribution much earlier. Believe me, that is much better than the 2 and 4 AM sessions that our staff has endured in the past. On Thursday afternoon the scientific sessions would be held for three and a half hours; the evening, of course, would still be available for VaMPAC's dinner meeting. Friday morning and afternoon also would be available for scientific sessions; this would give us another seven hours for CME. Friday evening would be available for alumni parties. Saturday morning would be available for the final session of the House of Delegates. Saturday afternoon would provide time for three and a half more hours of scientific sessions. Saturday night the annual banquet and ball would be held. Sunday morning we will provide time and space for three more hours of CME. Thus we will provide 17 hours of CME, a total of 34 hours available for papers.

This format will increase the length of the meeting by one-half day. I believe it will be much more efficient in its use of our time.

Let me say now to our specialty societies, know you by this proposal that The Medical Society of Virginia wants you and needs you at our annual meeting. You have asked for a time to present your papers. The program chairman now will call your hand. The time and space for which you have asked will be available—you must fill them. We welcome you most heartily to come back to your state Society. We need your help to expand our knowledge, your help with our committees to aid our members and the people of Virginia, and your help with our struggle against those who could change the character of the practice of medicine in our commonwealth and nation.

This House decided several years ago that the public outcry for postgraduate education must be heeded. It made as a requisite for membership certain hours of documented CME. Our CME Commission has approved many local programs so that we can obtain useful hours of instructions easily and inexpensively. The hours required have been set at a minimum. These moves seem to present little hardship for our physicians. At the last annual meeting of the AMA, medical societies were asked to relax CME requirements for membership. Our CME requirements are a part of the bylaws of the Society at the present; we therefore are still bound. One-third of our members have reported for last year, another third will report this year, the final third will report after 1981 is concluded. Our CME Commission, under the able direction of its unique executive secretary and extremely capable chairman and members, has done a fine job in implementing this program. I believe we can all profit from this program, and certainly it may be helpful to consider the benefits that accrue to our physicians in the eyes of the public. You have asked little of yourselves. Help each other to achieve this small goal.

After seeing the headquarters staff of many other states, I can report to you in good conscience that we have here in Virginia not the largest but by far the most efficient headquarters staff that I know of. I sometimes get the impression that our staff members love The Medical Society of Virginia and its efforts more than its physican members.

This year has been unparalleled in my life. I'm impressed and humbled by the hard work undertaken and well done by the committees of physicians of this Society. These people have made my job immensely easier, and their efforts have not resulted in any reward except that attained by a sense of achievement. I wish that I could thank them individually. Each of you can thank them by recruiting to our membership just one physician. If each of you will bring to our ranks one of your non-member friends we will have available *all* of the talent of our wonderful body of physicians here in Virginia.

As this meeting ends, so ends my term of office. I now return to full-time practice again. There has been some time for reflection this year. We are a privileged few—when our days in medical school ended there was a golden aura around the future. We were to be allowed into the hallowed ranks of those who were truly benefactors of man. Medicine would be a jealous mistress but certainly would demand no more than we would give over and over again. As the years pass, demands of patients, family, government and age slowly dilute the wonders and delight of our unique profession. Stop and think past the financial rewards, the harassments, the social standing and the deadening effects of creeping socialism. Medicine practiced in our communities can once more be clothed in the bright garments of a dedication that will make us yearn again to alleviate pain and comfort our people. The peace obtained by work well done will never be bought by higher and higher fees. I entreat you to feel the sting of accident or illness as your patients must, to know the utter despair of seeing life's hard-earned savings melt under mounting bills. To be concerned, to care, to sympathize, to render aid to the best of our ability should be the end to which we strive.

You honored me with this office, and I have tried very hard to follow what I felt were your desires during this year. I will cherish for the remainder of my years the experience of this office and the friends that I have made throughout this great commonwealth.

McGuire Clinic, Inc.

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ANESTHESIOLOGY
G.A. Weimer, M.D.
Boyd H. May, M.D.

DERMATOLOGY
E. Randolph Trice, M.D.

FAMILY PRACTICE
Charles F. Irwin, M.D.
Anthony Fierro, M.D.
D. Downs Little, M.D.
Frank N. Bain, M.D.
L. Michael Breeden, M.D.
Stuart S. Solan, M.D.

INTERNAL MEDICINE
John P. Lynch, M.D.
John B. Catlett, M.D.
Robert W. Bedinger, M.D.
David L. Litchfield, M.D.
Burness F. Ansell, M.D.
Randolph M. Halloran, M.D.
Hilton R. Almond, M.D.
James A. Repass, M.D.
Michael J. Miller, M.D.
Stanley C. Tucker, M.D.
Marigail Wynne David, M.D.
Richardson Grinnan, M.D.
Joseph Longacher, M.D.
Richard L. Glazier, M.D.
David D. Vaughan, M.D.
Joseph S. Galeski, III, M.D.
N. Michael Vranian, M.D.
Martin T. Starkman, M.D.

ALLERGY
John B. Catlett, M.D.
David D. Vaughan, M.D.

CARDIOLOGY
Randolph M. Halloran, M.D.
Stanley C. Tucker, M.D.

GASTROENTEROLOGY
Hilton R. Almond, M.D.
Joseph Longacher, M.D.

GERIATRICS
John P. Lynch, M.D.

HEMATOLOGY & ONCOLOGY
Burness F. Ansell, M.D.
Richard L. Glazier, M.D.

NEPHROLOGY
James A. Repass, M.D.
Ronald N. Kroll, M.D.
Martin T. Starkman, M.D.
W. Wayne Key, M.D.

PULMONARY DISEASES
Richardson Grinnan, M.D.

NUCLEAR MEDICINE & ENDOCRINOLOGY
David L. Litchfield, M.D.

RHEUMATOLOGY
Michael J. Miller, M.D.

OPHTHALMOLOGY
T. Todd Dabney, M.D.

NEUROLOGY
Stephen L. Jaffe, M.D.

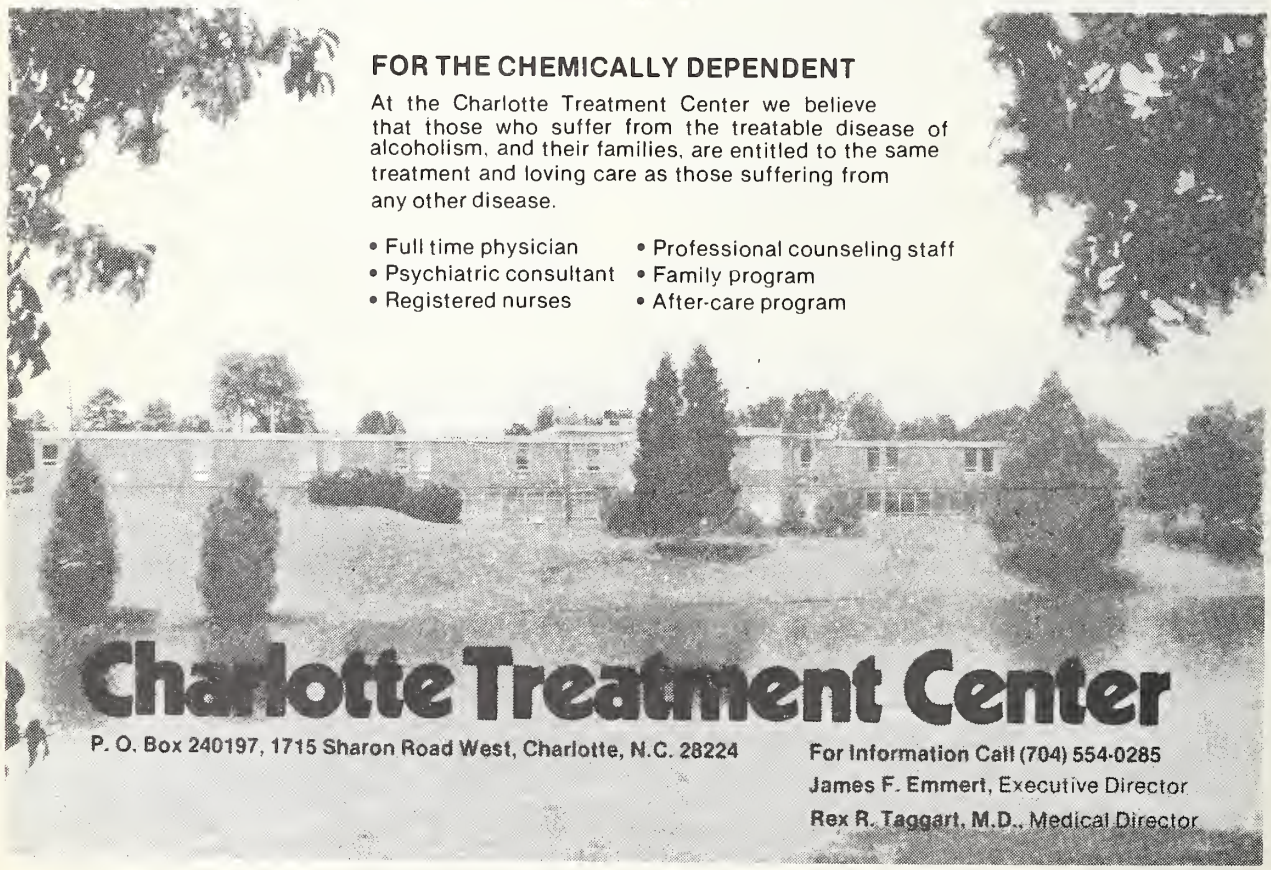
PATHOLOGY
Hubert R. White, Jr., M.D.

RADIOLOGY-DIAGNOSTIC
Henry S. Spencer, M.D.
Donald P. King, M.D.
William F. Proctor, M.D.
J. Gregory South, M.D.

RADIOLOGY-THERAPEUTIC
A. W. Burke, Jr., M.D., PhD.

SURGERY & GYNECOLOGY
Joseph W. Coxe, III, M.D.
Gilbert H. Bryson, M.D.
Charles S. Drummond, Jr. M.D.
Martin T. Evans, M.D.

Established 1923 by Stuart McGuire, M.D.



The Medical Society of Virginia
PROCEEDINGS

Minutes of Council

A meeting of the Council of The Medical Society of Virginia was held in Richmond at Society headquarters on Saturday, September 27, 1980.

Members Present: Dr. George M. Nipe; Dr. Percy Wootton; Dr. Charles E. Davis, Jr.; Dr. H. C. Alexander, III; Dr. William S. Burton; Dr. Charles M. Caravati, Jr.; Dr. Anthony J. Munoz; Dr. Glenn B. Updike, Jr.; Dr. William W. S. Butler, III; Dr. Robert C. Green, Jr.; Dr. Harry C. Kuykendall; Dr. John T. Hulvey and Dr. C. Barrie Cook.

Others Present: Dr. Harold L. Williams, 2nd Vice President; Dr. James P. Harnsberger, 3rd Vice President; Dr. Richard L. Fields, Vice Speaker; Dr. Edward Brown, representing Dr. James B. Kenley, Commissioner, State Department of Health; Dr. James A. Shield, Jr., Dr. James V. Scutero, Dr. Lawrence V. Marshall, Dr. George E. Broman, Dr. Nicholas G. Colletti and Dr. Gerald J. Fisher, Vice Councilors; Dr. F. Ashton Carmines, Dr. John A. Martin, Dr. Michael A. Puzak and Dr. Carl E. Stark, AMA Delegates; Dr. William J. Hagood, Jr., Dr. Arthur A. Kirk, Dr. W. Leonard Weyl and Dr. Raymond S. Brown, Alternate AMA Delegates; Dr. Carol Shapiro, President, Prince William County Medical Society; Mrs. Charles G. Smith, President, The Medical Society of Virginia Auxiliary; Pam Kramish, Lynn Broadfield and Vaughan Hall, UVa Student Medical Society; Mr. Doug Douglas and Mrs. Carla Mann, VaMPAC; Mr. Allen Goolsby, Attorney for the Society; Mr. Edward S. DeBolt and Mr. Bernie Smith, Society Consultants.

The meeting was called to order by the President and the invocation delivered by Dr. Carmines.

Auxiliary

Mrs. Smith presented her year-end report and described many of the Auxiliary's projects and activities. It was learned that over $40,000 has already been raised this year for AMA-ERF. The goal is $50,000 and there is every reason to believe that it will be realized.

The Auxiliary is becoming more and more active where the General Assembly is concerned and looks forward to working even more closely with the Society's legislative program. Council was pleased to learn that Mrs. William Reardon has been elected Eastern Regional Vice President of the AMA Auxiliary.

Public Address System

Some of those attending Council meetings have encountered difficulty in hearing the various discussions. Some of the difficulty can be attributed to background sounds associated with the air conditioning system. The staff consulted with a Richmond sound engineer and learned that the cost for an effective PA system would be approximately $2,500. It was the consensus that such cost could not be justified at this time.

Continuing Medical Education

The AMA House of Delegates, during its most recent meeting in Chicago, adopted a resolution requesting state medical societies to support a moratorium on additional mandatory continuing medical education programs. The moratorium would remain in effect until evidence could be obtained as to the ef-

fectiveness of CME in upgrading competence of physicians.

Dr. Nelson indicated that the word "additional" seemed to be the key to the AMA action and expressed the hope that the Society's program, as it relates to membership, could be continued through its initial three-year cycle. He stated that most of those members in the A-G category have complied with the requirements. There are only eight who have failed to indicate compliance.

Dr. Nipe reminded Council that Society bylaws would have to be amended before the program could be halted or discontinued. There was no indication that such action was desired.

Public Relations

Mr. DeBolt reported that a special communications seminar will be presented during the coming Annual Meeting at Williamsburg and that 16 component societies have already indicated they would be represented. Burroughs-Wellcome is cooperating with the Public Relations Committee in making the seminar possible.

Mr. DeBolt also reported that four Virginia newspapers will send reporters to the Annual Meeting. This means that, for the first time ever, the Annual Meeting will receive complete coverage. It is also expected that area television stations will cover certain highlights of the meeting.

1981 Annual Meeting

Representatives of the Society have recently visited the Omni in Norfolk and discussed with the staff various matters of concern. After surveying the facilities available, our representatives came away with the feeling that a very fine meeting can be held at the Omni. Of particular interest was the fact that an additional 200 parking spaces can and will be made available and this should eliminate one of the big concerns voiced in the past.

It was agreed that the Society would hold its 1981 Annual Meeting at the Omni as originally planned.

Future Meetings

Council was advised that the Richmond Academy of Medicine had recently conducted a poll of its membership with reference to the proposed East-West format for future Annual Meetings. The vote was 39-24 in favor of alternate meetings. Although it had been suggested that perhaps a poll of the entire membership should be made, it was the consensus that such an undertaking seemed unnecessary.

Third-Party Fee Scales

Some dissatisfaction has been expressed with regard to UCR fee scales utilized by some third-party payors. Such dissatisfaction is particularly strong in the northern Virginia area where fees are said to be "keyed to costs greater than those in rural and western Virginia."

Dr. Nipe reviewed correspondence recently received from that area relating to the decision of the Blue Shield of Virginia Board to eliminate the practice of using regional data to determine levels of provider reimbursement. He emphasized that any issue relating to methods of reimbursement was solely within the province of the Blue Shield Board. He did, however, express surprise that the Board had stated that a resolution passed by the House of Delegates last November was supportive of the Board's action.

The Chairman then reminded Council that the resolution in question emphasized the need for equitable reimbursements in order to ensure that rural communities will be able to attract and retain physicians. He further noted that "equitable" reimbursement does not necessarily mean the "same" reimbursement or the elimination of all territorial considerations in the determination of a level of reimbursement.

Mr. Goolsby stated that this particular matter represents an extremely sensitive area and that it did not seem appropriate for Council to involve the Society further.

1981 Travel Program

Dr. Wootton has reviewed a number of proposed travel programs for 1981 and believes that a Rhine River-Alpine trip during the summer holds the most promise. Acting upon his recommendation, Council voted approval.

Negotiations Guidelines

Dr. Hulley, Chairman of the Negotiations Committee, had requested that Council be provided an advance look at proposed Policy Guidelines for Negotiations prior to their consideration by the House of Delegates. It was pointed out that the annual report of the Committee will be published in the October issue of VIRGINIA MEDICAL and the Guidelines will also be published as an addenum. This means that they will automatically be referred to a reference committee of the House.

Physical Fitness

The following resolution, submitted to Council by the Norfolk Academy of Medicine, was adopted:

WHEREAS, the importance of having a qualified physician to examine and attest to the ability of an injured or ill employee to return to work cannot be too strongly emphasized, and

WHEREAS, employers responsible for the well-being of their employees while on the job, should be aware of the significance of having such a qualified physician bear witness to their fitness for duty, and

WHEREAS, physical fitness following illness or injury can only be determined through thorough examination by a doctor of medicine or osteopathy, now therefore be it

RESOLVED, that The Medical Society of Virginia go on record as being opposed to the use of persons other than doctors of medicine or osteopathy to attest to an employee's fitness to return to duty, and be it further

RESOLVED, that this matter be referred to the Industrial Commission of Virginia and the General Assembly for possible corrective legislative action.

Dr. Nelson suggested that serious thought be given to setting up a committee which would meet with representatives of industry for the purpose of discussing matters of mutual interest pertaining to employee health, etc. The thought was expressed that representatives of labor should also be included in any discussions which might be arranged.

Dr. Caravati then moved that the Public Relations Committee be requested to consider ways and means of establishing an effective liaison with representatives of business and labor. The motion was seconded and carried.

Chiropractic

A special committee headed by Dr. Gervas Taylor has given a great deal of thought to the Society's Policy Statement having to do with chiropractic. After considering several revisions, the Committee has recommended adoption of the AMA Policy Statement passed in 1979. Mr. Goolsby expressed the opinion that the AMA Statement appears well thought out and deals with the problem quite effectively.

During the ensuing discussion, a question was raised as to whether the Society might be better off having no statement at all. It was pointed out that, regardless of what action might be taken, the current Policy Statement must be rescinded.

A motion by Dr. Davis adopting the AMA Policy Statement as recommended by the Committee was seconded and carried. It was agreed that adoption of the AMA Statement does in fact rescind the current Society Policy Statement.

National Health Service Corps

Council, during its meeting on April 26, requested that the National Health Service Corps program be studied by an appropriate committee. Consequently, the Committee on Rural Health looked into the matter and its thoughts were made known.

Mr. Osburn reported that there are approximately 30 National Health Service physicians practicing in Virginia at this time. Of the 63 who have practiced in the state at one time or another, only six have remained on a permanent basis. Mr. Osburn went on to say that the Virginia Council on Health and Medical Care is quite familiar with the problem and will quite likely make a comprehensive report available in the near future.

Dr. Burton reported that the Corps has made considerable inroads where medical schools are concerned. Approximately 9% of Virginia's medical students are enrolled in the program at this time. These students receive $12,500 per year and in return obligate themselves to serve where needed on a basis of one year for each year of support. There are indications that more funds might soon be appropriated for the Corps and this means more and more students being enrolled.

Dr. Burton went on to point out that there are now 28 medical health care clinics in Virginia, manned by 30 physicians and 24 administrators. As a result of the criteria used, the vast majority of the state can be considered as an area of need.

It was then moved by Dr. Burton that some method be established whereby the National Health Service Corps program could be monitored and its activities recorded. These would include the number and movement of physicians in the program, number and location of students enrolled, rates of retention, etc. The motion was seconded.

There followed considerable discussion during which it was learned that most medical students are not aware of the problems associated with the program. Many depend upon the Corps for the financial assistance they need. Dr. Green offered a substitute motion which would refer the matter of the National Health Service Corps to Vanguard. The motion was seconded and adopted.

It was suggested that Vanguard inform the various HSAs about the National Health Service Corps program and that every effort should be made to consult with local boards of supervisors before designating any communities as areas of need.

Dr. Caravati then moved that all data obtained about the Corps be made available in report form to Virginia's three medical schools and the state's congressional delegation. Such reports would include

both positive and negative aspects of the program and the Society would provide any assistance that might be required for dissemination. His motion was seconded and adopted.

4-H Health Project

The Society has for many years made an annual contribution to the 4-H Club Health Program. This contribution, in the amount of $500, has been used to purchase awards for winners in the various health project categories. The Society has made many good friends as a result of its participation.

4-H Club officials have submitted a proposal which would increase the Society's participation, financial and otherwise. Our contribution would be increased to approximately $1,200, and this would provide a number of scholarships to the state 4-H Congress and for various award-winning demonstrations.

It was moved by Dr. Munoz that the Society approve the proposal and continue its participation in the program. The motion was seconded and carried.

Antitrust Suit

Mr. Goolsby brought Council up-to-date on a recent antitrust suit involving the Society. Although all charges have been dismissed, the decision will, in all likelihood, be appealed.

Mr. Goolsby went on to discuss developments with reference to antitrust laws and what the future seems to hold for the individual physician. The question of what does and does not constitute an antitrust violation is so involved and complex that physicians must be increasingly careful of what they say and do where fees, salaries, etc. are involved. Hope was expressed that Mr. Goolsby would write an informative article for publication in the VIRGINIA MEDICAL. It was also suggested that a special item be prepared for the Society's newsletter.

SLH Program

It was recalled that Council at its last meeting had been requested to review the matter of physician participation in Virginia's State-Local Hospitalization Program. The Society, many years ago, urged its members to make no charge for services provided indigent patients under SLH.

During the discussion it was brought out that only a very small group of patients seem to be involved in the program today. It was agreed that most physicians have always taken care of the true indigent without concern for pay and would undoubtedly continue to do so. The program is basically local in nature and the extent of its use is a matter for local boards of supervisors. Consequently, further action by the Society was not considered necessary at this time.

Professional Liability Program

Mr. Goolsby reported that the number and severity of malpractice claims in Virginia are increasing—in keeping with a national trend. As a result, a net premium increase for the Society-sponsored professional liability program became effective September 1. The increase, taking into consideration a premium decrease for excess limits coverage, is approximately 14% overall.

The Insurance Committee has spent a great deal of time in its effort to make the program as sound as it possibly can be and thereby acceptable to the entire membership. It is currently seeking to develop a meaningful dividend arrangement which, among other things, would take into account certain investments by the carrier and also lessen the possibility of over-reserving. Such a proposal will soon be made to St. Paul, and Council will be kept advised.

It was also mentioned that the Society has employed its own actuary in order to make sure that its proposals are reasonable and its information accurate.

There followed considerable discussion as to what other alternatives are available to the Society should the need arise. Various reciprocals were mentioned as a possibility, but recent feasibility studies have stressed the advisability of making the present program work to the satisfaction and benefit of all concerned.

Workmen's Compensation

Council was advised that Dr. Gervas Taylor has been appointed Chairman of a State Peer Review Committee for Workmen's Compensation. Mr. Goolsby reported that the Committee has met on two occasions and has adopted a plan of operation along with rules and procedure. He believes that a great deal of progress has already been made and stated that an effective liaison has been established with the Virginia Manufacturers Association.

Bylaws

Council considered a proposal to amend the Articles of Incorporation to permit interns and residents licensed in Virginia to become active members with dues set at a rate lower than for other active members. After discussion, the Council adopted the following resolution:

RESOLVED, that the following amendments of the Arti-

cles of Incorporation are in the best interest of the Society and are hereby directed to be submitted to a vote at a meeting of the members of the House of Delegates at this year's annual meeting in Williamsburg: Amend Section 3 of the Articles of Incorporation by adding after the first sentence of the fourth paragraph, *Dues for active members who are interns, residents or fellows in approved programs in Virginia may be set at an amount which is less than the dues for other active members,* and deleting the eighth paragraph and substituting, *Graduate active membership may be granted to any applicant who is a doctor of medicine or osteopathy and who is serving in an internship, residency or fellowship in an approved program in Virginia. Graduate active members shall not pay dues, nor shall they vote or hold office or serve on standing committees, but shall be entitled to all other privileges of membership.*

Council gave a great deal of thought to a number of proposed amendments to the bylaws as contained in the annual report of the Bylaws Committee. One of the amendments would increase the terms of Vanguard Committee members from two to three years. Some concern was expressed that such a change would further tie the hands of the President in his appointment of committees and also pose a problem should it seem advisable to replace a disinterested member. A motion by Dr. Caravati expressing concern and opposition to the amendment was seconded and carried.

Another proposed amendment receiving much consideration was that which would automatically drop from Society membership rolls any member whose license to practice is suspended or revoked. After considerable discussion, Dr. Updike moved to recommend that the words "for the duration of said suspension or revocation" be added at the end of the proposed amendment. His motion was seconded and carried.

Another amendment proposed by the Committee was concerned with the readmittance to membership of those who have not complied with CME requirements. No action was taken by Council on this amendment.

Vanguard

Dr. Kuykendall brought Council up-to-date on Vanguard activities. He reported that the pilot project in northern Virginia was right on schedule and that the cost was considerably less than anticipated. He indicated that a supplemental report would be submitted to the House and that it will contain a number of recommendations. The Committee is also working on a proposed budget for the coming year and expects to have it in final form within the next few days.

VaMPAC

Dr. Weyl reported that VaMPAC is continuing to strengthen the administrative arm of its operation. Mr. Douglas is the new executive director and Mrs. Carla Mann, the assistant director and office manager. Dr. Weyl also stated that VaMPAC now has 120 "PAC 250" members and that its total membership is expected to exceed 1600 by the end of the year.

Final arrangements have been made for the VaMPAC banquet at Williamsburg on November 6 and Senator Byrd will be the speaker of the evening. Arrangements have also been made for "PAC 250" members to visit with the Governor once again on May 14 of next year.

Standards of Principles

In 1957 The Medical Society of Virginia, in cooperation with the Virginia State Bar, published the "Standards of Principles Governing Physicians and Lawyers". Representatives of both organizations have met jointly on a number of occasions for the purpose of revising the Standards and bringing them up-to-date. Mr. Goolsby stated that the proposed revision appears, in a very fair way, to address itself to mutual concerns of both groups.

A motion by Dr. Cook to approve the proposed revision was seconded and adopted.

Dr. Hotchkiss

Council was advised that Dr. Hotchkiss will seek reelection to the AMA Board of Trustees in June, 1981. It was stated that Dr. Hotchkiss has made many contributions as a Trustee and the Society will surely wish to endorse and support his candidacy for reelection. Such support would be in the form of one or two special mailings to members of the AMA House of Delegates, some form of promotional material and a reception for Dr. Hotchkiss in Chicago next June.

A motion authorizing financial support for Dr. Hotchkiss' candidacy in an amount not to exceed $10,000 was seconded and adopted.

There being no further business, the meeting was adjourned.

Robert I. Howard, Secretary

APPROVED
George M. Nipe, MD, President

VIRGINIA MEDICAL EDITORIAL

A Salute to President Wootton

As a man he is honorable, sincere, trustworthy, and kind; as a doctor, competent, knowledgeable, concerned, and committed; as an administrator, able, receptive, resourceful, and firm. Indeed, Percy Wootton may not be the "Compleat Paragon"—unfortunately for this world no mere mortals are—but he is an uncommonly fine person, doctor, and administrator. As our President he will stand tall in the tradition of excellence established by his predecessors in that office. My authority for these glowing descriptive adjectives stems from a broad relationship with him as my friend of more than 20 years, my chief resident and colleague at the Medical College of Virginia, my associate in various medical organizations, and my fellow practitioner of the art and science of medicine.

Dr. Wootton is a high achiever. Even a cursory review of his honors, the offices he has held, and the contributions he has made establishes eloquent testimony to this. He is on the staff of nine hospitals and has been Chief of Medicine at one. He has been president of five medical or medically related organizations and vice-president of another, and has rendered significant service to five others through membership on committees or the board of directors.

As a mark of the man, his involvements are not confined to medicine. Dr. Wootton has always had a deep interest in and love for his church, so it follows that he is an elder and a delegate to the state convention. He is active in a number of civic and fraternal organizations. He serves his alma mater, Lynchburg College, on the board of overseers and has been on the board of the Lynchburg College Alumni Association for several terms. His business ability is recognized by his election to the board of directors of the Franklin Federal Savings and Loan Association, Richmond, and the Franklin Federal Service Corporation. Additionally, Governor Dalton has recently named him to be a trustee of the Science Museum of Virginia.

His successes may be related to his sturdy background. He came into this world a country boy, born in the home, delivered by his family doctor, and raised, the youngest of three brothers and six sisters, on his father's dairy farm several miles outside of Burkeville in Nottoway County. There was work for all to do, and young Percy had his chores and responsibilities. Doubtless, in these formative years he developed his traits of self-reliance, self-discipline, independence, and dependability.

It was also as a boy that he determined to be a doctor. His grandmother, whom he loved dearly, lived with them, and he often accompanied her to the big city, Richmond, to see Dr. Douglas Chapman for treatment of her heart disease. Dr. Chapman, one of the early internists of Richmond and Chief of Medicine at St. Elizabeth's Hospital, by his example and influence inspired Percy to study medicine. From Burkeville High School, therefore, it was on to Lynchburg College, to the Medical College of Virginia, to Roanoke Memorial Hospital for an internship, back to the Medical College of Virginia for two



Photograph by Joe Colognori

PERCY WOOTTON, MD, PRESIDENT, 1980-1981, THE MEDICAL SOCIETY OF VIRGINIA, AND HIS WIFE, JANE PENDLETON WOOTTON, MD

Thank You!

The Editors are immensely grateful to these physicians who performed special tasks of review and consultation during the year 1980:

John T. Farrar, MD
Edward W. Hook, MD
W. Glenn Hurt, MD
Walter E. Nance, MD
J. Latane Ware, MD

years of general medical residency, and to the Navy for two years of active duty.

Then, understandably in view of his early influences, his interests turned to cardiology, and he returned to the Medical College of Virginia for a final year of fellowship in this discipline. At long last he achieved his goal and began the practice of medicine and cardiology in Richmond in 1963. In conjunction with Dr. Paul D. Camp and his associates, Dr. Wootton has become recognized as an outstanding practicing cardiologist with keen diagnostic acumen and therapeutic skills.

The above notwithstanding, Dr. Wootton's highest achievement is the wooing, winning, and persuading of Jane Pendleton to become Mrs. Percy Wootton. This process, begun when Jane was a junior student at Salem College, was not concluded until both were at the Medical College of Virginia, she a rising sophomore student in medicine and he a beginning fellow in cardiology. They have three children now, two girls and a boy, and the boy, naturally, is talking of becoming a doctor.

Like Percy, Jane was born and raised in the country, at Cuckoo, Louisa County, in a house built about 1812, where her family had been since before the unpleasantness of the 1860s. The Woottons are now buying the old place and have an eye on retiring there someday in the if-and-when future. They are presently limited to tree farming there, since, as Percy particularly is aware, trees do not require daily feeding, watering, housing, and milking.

Also like Percy, Jane set her sights on a medical career when a child, for her grandfather, whom she idolized, was Dr. Eugene B. Pendleton, graduate of the University College of Medicine in 1908, and she was allowed to accompany him on occasion when he made his calls. She won her MD in 1965.

The Woottons live in a house in Richmond that has distinguished medical connections, as it was built by and was the home of Dr. James Henderson Smith and his family for many years. Dr. Smith was one of Dr. Stuart McGuire's associates, Chief of the Medical Service at McGuire Clinic-St. Luke's Hospital, and a truly outstanding human being, pioneer diagnostician, and beloved physician.

The Woottons' hobbies meet in this gracious home. Dr. Jane Wootton is a self-professed homebody, even though she continues to use her medical skills as a volunteer physician at the Virginia Home. Dr. Percy Wootton, when he is free, enjoys puttering around his home and garden. She is charged with the flowers, he with the grass, bushes, and trees. Jane is seriously involved again with her music, and Percy with his major interest of reading, particularly history of the Civil War period; he also is intensely interested in politics and in political involvement at every level. Many of their interests center around their three children, and, on occasion, Percy and his young son enjoy a golf game at the country club.

A bit of research into the annals of The Medical Society of Virginia uncovers a human interest feature that is unique. Of all of our husband-wife doctor-members, Dr. Percy Wootton is the first President to have a member for a wife, and, conversely, she is the first member to have the President for a husband. Furthermore, in Dr. Percy Wootton the Auxiliary has for the first time one of its members as President of The Medical Society of Virginia.

Dr. Wootton, you have earned the respect, trust, and confidence of all of us. You merit this high honor and high office. You will guard our interests and lead us well in the year ahead.

W. T. THOMPSON, JR., MD

VIRGINIA MEDICAL OBITUARY

Carroll H. Iden, MD

Dr. Carroll Hoge Iden, general practitioner in Berryville since 1916, died September 27 in Winchester Memorial Hospital at the age of 87. He had been active in his practice until a few months before his death.

Born in Loudoun County, Virginia, Dr. Iden was graduated from Randolph Macon Academy and the Medical College of Virginia and took his training at the Medical College of Virginia Hospitals. He was a past president of the Northern Virginia Medical Society and had been a member of The Medical Society of Virginia for 62 years. He belonged also to the Southern Medical Association and the American Geriatric Society.

Two sons followed Dr. Iden into the medical profession: Dr. Thomas C. Iden, Berryville, and Dr. Robert W. Iden, Warrenton.

Memoir of C. Leonard Booker 1909-1980

By Norman R. Tingle, MD

On July 5, 1980, the Northern Neck Medical Association lost one of its beloved members, and Northumberland County one of its most distinguished citizens, in the death of C. Leonard Booker. He was 71 and had been a member of the Northern Neck Association since he began his practice of general medicine in 1937. He died at his home, "Oak Knoll", in Lottsburg after a lengthy illness.

The son of Dr. Robert Eubank and Mabel Motley Booker, and member of a family whose practice in Northumberland County area extends back to the late 1800's, he attended the College of William and Mary and the University of Richmond and received his medical degree from the University of Virginia School of Medicine in 1936.

Dr. Booker was a charter fellow of the American Academy of Family Physicians, a member of the American Medical Association, the Southern Medical Association, The Medical Society of Virginia and the Virginia Academy of Family Physicians. He became a member of the Northern Neck Medical Association in October 1937 and served as its president in 1940 and 1961. He was a charter member of the BBLT Audio Digest Club, a continuing medical education club organized in 1955. In its October 1979 issue, VIRGINIA MEDICAL published a feature story about the club and the four friends who were its members: Dr. Booker; his younger brother, Dr. J. Motley Booker; Dr. Melvin B. Lamberth, Jr., and the author of this memoir.

With his father, and later his brother, Dr. C. Leonard Booker established the Booker Clinic at Lottsburg and also built the adjacent Booker Maternity Hospital, where he delivered many babies of at least two generations. Dr. Booker was loved by his patients, admired by his colleagues, and respected by all who knew him. In his later years, he came closer to his Lord and witnessed this to many of his friends and the fellow members of Bethany Baptist Church.

Model airplanes were his hobby, and this led him to become a private pilot. For nearly ten years, until illness brought an end, he enjoyed the delights of flying the skies of the area.

Dr. Booker is survived by his wife, Wilhelmina McDonald Booker; two daughters, Miss Virginia Tod Booker of Houston, Texas, and Miss Suzanne McDonald Booker, Richmond; two sons, Robert Eubank Booker, III, Springfield, and Carrington Leonard Booker, Jr., Houston, Texas; two brothers, Robert Eubank Booker, Jr., and Dr. James Motley Booker of Lottsburg; and one sister, Mrs. Elizabeth Booker Norris of Hague. There are four grandchildren.

He will be missed. He was a good man and a dedicated family physician.

Prepared and published at the request of the Northern Neck Medical Association.

VIRGINIA MEDICAL CLASSIFIED

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KEY TO ABBREVIATIONS

ar—annual report
b—book review
ed—editorial
h—history
le—letter to the editor
ml—medicine and the law
*—medical article
m—memoir
pv—point of view
s—speech
sa—special article
ww—who's who

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